

WBS No: 1HAD0101  
Activity ID: 1HAD1110P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

WBS No:	1HAD0101	Title:	Program Management									
Activity ID:	1HAD1110P2	Description:	Program/Project Management									
				Cost Risk		1		Schedule Risk		1		
Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Environmental Media Management	1.00	each	EE	10.164	10.164	543.266	0	0	543.266	200.339	743.605
2	Actinide Migration Evaluation/Site Water Balance	1.00	each	EE	7.656	7.656	409.213	0	0	409.213	150.904	560.118
3	RFCA Implementation & Oversight	1.00	each	EE	10.164	10.164	543.266	0	0	543.266	200.339	743.605
4	Program ODC's	1.00	each	EE	0	0	0	38.165	0	38.165	0	38.165
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	467.112	467.112	0	467.112
Total for Activity 1HAD1110P2:						27.984	1.495.745	38.165	467.112	2.001.022	551.582	2.552.604

**Line Item 1 - Environmental Media Management**

BOE	<p>Management and oversight of all Environmental Media Management programs/projects. To include personnel management, work assignments, stakeholder meetings and program review and reporting to K-H management and the various customers/stakeholders including but not limited to DOE.</p> <p>Actual labor hours charged for FY 99 &amp; 00 accessible from the Joshua project status system were used as a basis for current estimates.</p> <p>Estimators Experience - Previously Managed similar programs at Rocky Flats Experience Item Desc - Current program manager for water and air monitoring programs, Actinide Migrations program and RFCA program. Based on level of effort of one full time FTE for management and oversight of similar programs per review of labor charged over previous year on same programs. Hours projected are based on actual direct labor usage from Environmental Systems and Stewardship labor runs accessible on the Joshua database project reporting system from FY 98 thru 00.</p> <p>Breakdown of Cost Data: Item - direct labor Units - hours - full time equivalent of 1 over full span of program out to 12/15/05 = ~10,916 hours Unit Cost - at appropriate established labor rate Unit Cost Adjustment factor - Revised Unit Cost - Basis for adjustment - no adjustment -</p>
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K109S	Env Sys. Stewardship & Compliance	Linear	10.164.00 Hours
Factors	154	hours per month (Nininger)	66	months			

**Line Item 2 - Actinide Migration Evaluation/Site Water Balance**

BOE	<p>To provide program management and oversight expertise to the Actinide Migration Evaluation program and Site Water Balance project. Includes Work assignments, subcontract management and approval, management and stakeholder meetings and reviews, cost and schedule inputs and analysis and program development.</p> <p>Actual labor hours charged for FY 99 &amp; 00 accessible from the Joshua project status system were used as a basis for current estimates.</p> <p>Estimators Experience - Current project manager for Actinide Migration Evaluation. Estimate based on current effort required to monitor subcontracts, perform stakeholder reviews and manage day to day project activities and coordination. Actual cost and direct labor hours were reviewed and support the full time FTE.</p> <p>Experience Item Desc - Current project manager of Actinide project</p> <p>Breakdown of Cost Data: Item - direct labor hours Units - hours Unit Cost - at appropriate rate for manager assigned Unit Cost Adjustment factor - Revised Unit Cost - Basis for adjustment - no adjustment</p> <p>May budget cuts reduced the Project Managers time to .75 FTE. Life cycle impacts not known at this time.</p>
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K109S	Env Sys. Stewardship & Compliance	Linear	7.656.00 Hours
Factors	116	hours per month (Davton)	66	months			

**Line Item 3 - RFCA Implementation & Oversight**

BOE	<p>Provide program management expertise to support RFCA Implementation/Oversight, strategic planning and management of Water Strategy activities. This line item will also support effort in support of the Interim Corrective Action Decision/Record of Decision (IROD).</p>
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**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Actual labor hours charged for FY 99 & 00 accessible from the Joshua project status system were used as a basis for current estimates.

Estimators Experience - Currently manager on RFCA water and air programs. Labor runs from previous fiscal and current fiscal year demonstrate one FTE to support legal and administrative matter in conjunction with this project.

Experience Item Desc - Current project manager on RFCA activities

Breakdown of Cost Data:

Item - direct labor hours

Units - hours

Unit Cost - at appropriate rate for manager level

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment - no adjustment

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K109S	Env Svs. Stewardship & Compliance	Linear	10.164.00 Hours
Factors	154	hours per month (Brooks)	66	months			

**Line Item 4 - Program ODC's**

BOE Training estimate was based on best guess from program manager for annual environmental, water and air programs industry standard updates. Annual conferences will be split between the three project managers. Cost was based on round trip to either coast for 1 week stay. Rates will vary this is best guess only.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5C	SUPPLIES	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Linear	2.178.13 Dollars
Factors	460	dollars for legal reimbursement (laura)	5	years	0.94701 --- FY00 Max Earned Value Factor		
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Linear	18.940.30 Dollars
Factors	2000	Training & professional mtgs	2	trips per year	5 years	0.94701 --- FY00 Max Earned Value Factor	
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Linear	17.046.27 Dollars
Factors	1800	dollars per training packet for CLE's	2	per year	5 years	0.94701 --- FY00 Max Earned Value Factor	

**Line Item SYS - Contingency And Escalation**

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	305.275.70 Dollars
Factors	305276	Dollars					
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	161.836.70 Dollars
Factors	161837	Dollars					

Activity ID: 1HAD1120P2 Description: Administrative Support

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Budget & Schedule support	1.00	each	EE	0	0	0	575.683	0	575.683	0	575.683
2	administrative support	1.00	each	EE	0	0	0	185.041	0	185.041	0	185.041
3	office and presentation supplies	1.00	each	EE	0	0	0	52.503	0	52.503	0	52.503
4	Records Archiving (water & air)	1.00	each	VQ	0	0	0	5.440	0	5.440	0	5.440
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	186.597	186.597	0	186.597
Total for Activity 1HAD1120P2:						0	0	818.666	186.597	1,005.263	0	1,005.263

**Line Item 1 - Budget & Schedule support**

BOE Estimators Experience - Estimator was a subcontractor supporting Budget/Schedule activities for Water and Air programs at Rocky Flats for past 3 fiscal years. Estimator has good knowledge of systems and systems requirements to support new contract format. Past years estimates have been supported by actual cost thus substantiating accuracy of estimator.

Actual labor costs charged for FY 98 thru 00 accessible from the Joshua project status system were used as a basis for current estimates.

Experience Item Desc - Performed similar activities on like programs in previous fiscal years

Breakdown of Cost Data:

Item - subcontract labor

Units - A5H (hours) 10916 total to 2005

Unit Cost - \$70 per hour

Unit Cost Adjustment factor -

WBS No: 1HAD0101  
Activity ID: 1HAD1120P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Revised Unit Cost -  
Basis for adjustment - no adjustment

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	P070	COST ESTIMATORS PLANNERS AN	K109S	Env Sys. Stewardship & Compliance	Linear	575.682.80
Factors	154	HOURS PER MONTH	70	dollars per hour	66	MONTHS	

0.80913 [SYS 061500] .80704 - Svstem

**Line Item 2 - administrative support**

BOE	Estimators Experience - Subcontracted administrative support from previous similar project at Rock Flats for Compliance, Water and Air programs demonstrate the use of one FTE to support reporting and secretarial requirements. For administrative support this program shares cost with Compliance programs for secretarial support as required. The split is ~ 50% to each program.  A5H cost for FY 99 & 00 from the Joshua project reporting system were used as a basis for this estimate.  Experience Item Desc - Performed similar activities on like programs in previous fiscal years Breakdown of Cost Data: Item - subcontract labor Units - A5H (hours) Unit Cost - \$45 per hour Unit Cost Adjustment factor - Revised Unit Cost - Basis for adjustment - no adjustment  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.						
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	G040	SECRETARIES	K109S	Env Sys. Stewardship & Compliance	Linear	185.040.90
Factors	77	HOURS PER MONTH	45	dollars per hour	66	MONTH	

0.80913 [SYS 061500] .80704 - Svstem

**Line Item 3 - office and presentation supplies**

BOE	A best guess estimate based on estimated useage over previous years. Shared cost with other departments in past years. No firm data on how much the new organization will require to support presentations and day to day expendalbe's usage. The HAD WBS currently estimates 45 FTE's to support the program. A guideline of \$250/yr/FTE was established by the transition team and was used as a basis.						
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5C	SUPPLIES	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	52.502.51
Factors	21	dollars per month	66	months	40	FTE's	

0.94701 --- FY00 May Earned Value Factor

**Line Item 4 - Records Archiving (water & air)**

BOE	Vendor Name - Source one Vendor Quote - \$1360 for 26 cubic feet for historical air records given to Radian/c. Patnoe Date Received - 3/14/2000 Item being quoted - air quality documents Other Info - used as a baseline for air and water documents Availability - on file with Radian  the baseline was for records dated from the 70's through '98. This baseline proposed 26 cubic feet of records archived for 26 hours at negotiated rate TBD (estimated at \$50/hr burdened) and supplies of ~ \$60. The total estiamte for water and air programs used this as a basis times 4. The rationale being that the baseline estimate from Source One stops in '98, the years of '99 thru closure needs to be added to this estimate - assumed same quantity of records used for previous years estimate to be used for '99 forward. Also assumed water programs would have similar record quantities. Take the estimate x 4.						
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A55	SOURCE ONE	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	5.200.00
Factors	104	hours	50	dollars per hour			
A55	SOURCE ONE	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	240.00
Factors	240	dollars supplies					

**Line Item SYS - Contingency And Escalation**

BOE							
Resources		Cost Element	Skill	Department	Curve	Quantity	Units

WBS No: 1HAD0101  
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Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	121.722.60	Dollars
<i>Factors</i> 121723 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	64.874.18	Dollars
<i>Factors</i> 64874.2 Dollars								

Activity ID: 1HAD1130P2 Description: Quality Assurance

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Quality Assurance	1.00	each	EE	2.310	2.310	85.147	0	0	85.147	31.399	116.546
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	26.096	26.096	0	26.096
Total for Activity 1HAD1130P2:						2.310	85.147	0	26.096	111.242	31.399	142.641

**Line Item 1 - Quality Assurance**

BOE	Estimators Experience - This is a best guess by the Environmental Media Management Program Manager based on past experience with similar program and requirements. This estimate is also based on past experience with QA audits on Water and Air programs, and conversations with QA supervisor's as to what level of support we should require for audits and report reviews. Anticipate ~ .25 FTE. . Support was previously supplied by another organization and we have no real discrete costs to use as a basis, therefore the estimators experience was the most reliable basis for this estimate.  Experience Item Desc - FTE level of support to Environmental Systems and Stewardship projects (RMRS and KH) from fiscal year 98 thru 00. Breakdown of Cost Data: Item - direct labor hours from past fiscal years apportioned to ESS Units - hours Unit Cost - current hourly rate for QA Unit Cost Adjustment factor - Revised Unit Cost - Basis for adjustment - no adjustment - best guess
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	C102S	Quality Assurance	Linear	2.310.00	Hours
	Factors	35 HOURS PER MONTH	66	MONTH DURATION					

**Line Item SYS - Contingency And Escalation**

BOE										
Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	17.055.07	Dollars
	Factors 17055.1 Dollars									
	ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	9.040.54	Dollars
	Factors 9040.54 Dollars									

Activity ID: 1HXXX110P2 Description: Program/Project Management- FY06

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Environmental Media Management	0.17	each	EE	10.164	1.763	94.257	0	0	94.257	50.413	144.671
2	Actinide Migration Evaluation/Site Water Balance	0.17	each	EE	7.656	1.328	70.999	0	0	70.999	37.974	108.973
3	RFCA Implementation & Oversight	0.17	each	EE	10.164	1.763	94.257	0	0	94.257	50.413	144.671
4	Program ODC's	0.17	each	EE	0	0	0	6.622	0	6.622	0	6.622
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	273.446	273.446	0	273.446
Total for Activity 1HXXX110P2:						4.855	259.514	6.622	273.446	539.581	138.800	678.381

**Line Item 1 - Environmental Media Management**

BOE	Management and oversight of all Environmental Media Management programs/projects. To include personnel management, work assignments, stakeholder meetings and program review and reporting to K-H management and the various customers/stakeholders including but not limited to DOE.  Actual labor hours charged for FY 99 & 00 accessible from the Joshua project status system were used as a basis for current estimates.  Estimators Experience - Previously Managed similar programs at Rocky Flats Experience Item Desc - Current program manager for water and air monitoring programs, Actinide Migrations program and RFCA program. Based on level of effort of one full time FTE for management and oversight of similar programs per review of labor charged over previous year on same programs. Hours projected are based on actual direct labor usage from Environmental Systems and Stewardship labor runs accessible on the Joshua database project reporting system from FY 98 thru 00.
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Activity ID: 1HXXX110P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Breakdown of Cost Data:  
Item - direct labor  
Units - hours - full time equivalent of 1 over full span of program out to 12/15/05 = ~10,916 hours  
Unit Cost - at appropriate established labor rate  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment - no adjustment -

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K109S	Env Sys. Stewardship & Compliance	Linear	10.164.00
Factors	154	hours per month (Nininger)	66	months			Hours

**Line Item 2 - Actinide Migration Evaluation/Site Water Balance**

**BOE** To provide program management and oversight expertise to the Actinide Migration Evaluation program and Site Water Balance project. Includes Work assignments, subcontract management and approval, management and stakeholder meetings and reviews, cost and schedule inputs and analysis and program development.

Actual labor hours charged for FY 99 & 00 accessible from the Joshua project status system were used as a basis for current estimates.

Estimators Experience - Current project manager for Actinide Migration Evaluation. Estimate based on current effort required to monitor subcontracts, perform stakeholder reviews and manage day to day project activities and coordination. Actual cost and direct labor hours were reviewed and support the full time FTE.

Experience Item Desc - Current project manager of Actinide project

Breakdown of Cost Data:  
Item - direct labor hours  
Units - hours  
Unit Cost - at appropriate rate for manager assigned  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment - no adjustment

May budget cuts reduced the Project Managers time to .75 FTE. Life cycle impacts not known at this time.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K109S	Env Sys. Stewardship & Compliance	Linear	7.656.00
Factors	116	hours per month (Dayton)	66	months			Hours

**Line Item 3 - RFCA Implementation & Oversight**

**BOE** Provide program management expertise to support RFCA Implementation/Oversight, strategic planning and management of Water Strategy activities. This line item will also support effort in support of the Interim Corrective Action Decision/Record of Decision (IROD).

Actual labor hours charged for FY 99 & 00 accessible from the Joshua project status system were used as a basis for current estimates.

Estimators Experience - Currently manager on RFCA water and air programs. Labor runs from previous fiscal and current fiscal year demonstrate one FTE to support legal and administrative matter in conjunction with this project.

Experience Item Desc - Current project manager on RFCA activities

Breakdown of Cost Data:  
Item - direct labor hours  
Units - hours  
Unit Cost - at appropriate rate for manager level  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment - no adjustment

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	M020	MANAGERS (GRADE 69 - 72)	K109S	Env Sys. Stewardship & Compliance	Linear	10.164.00
Factors	154	hours per month (Brooks)	66	months			Hours

**Line Item 4 - Program ODC's**

**BOE** Training estimate was based on best guess from program manager for annual environmental, water and air programs industry standard updates. Annual conferences will be split between the three project managers. Cost was based on round trip to either coast for 1 week stay. Rates will vary this is best guess only.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
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**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

A5C	SUPPLIES	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	2,178.13	Dollars
Factors	460	dollars for legal reimbursement (laura)	5	years	0.94701	--- FY00 May Earned Value Factor		
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	18,940.30	Dollars
Factors	2000	Training & professional mtgs	2	trips per year	5	years	0.94701	--- FY00 May Earned Value Factor
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	17,046.27	Dollars
Factors	1800	dollars per training packet for CLE's	2	per year	5	years	0.94701	--- FY00 May Earned Value Factor

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	187,603.60	Dollars
Factors	187604 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	85,842.02	Dollars
Factors	85842.0 Dollars							

Activity ID: 1HXXX12P2 Description: Administrative Support

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Budget & Schedule support	0.17	each	EE	0	0	0	99,882	0	99,882	0	99,882
2	administrative support	0.17	each	EE	0	0	0	32,105	0	32,105	0	32,105
3	office and presentation supplies	0.17	each	EE	0	0	0	9,109	0	9,109	0	9,109
4	Records Archiving (water & air)	0.17	each	VQ	0	0	0	944	0	944	0	944
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	102,150	102,150	0	102,150
Total for Activity 1HXXX12P2:						0	0	142,040	102,150	244,189	0	244,189

**Line Item 1 - Budget & Schedule support**

**BOE**

Estimators Experience - Estimator was a subcontractor supporting Budget/Schedule activities for Water and Air programs at Rocky Flats for past 3 fiscal years. Estimator has good knowledge of systems and systems requirements to support new contract format. Past years estimates have been supported by actual cost thus substantiating accuracy of estimator.

Actual labor costs charged for FY 98 thru 00 accessible from the Joshua project status system were used as a basis for current estimates.

Experience Item Desc - Performed similar activities on like programs in previous fiscal years

Breakdown of Cost Data:  
Item - subcontract labor  
Units - A5H (hours) 10916 total to 2005  
Unit Cost - \$70 per hour  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment - no adjustment

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element			Skill		Department		Curve	Quantity	Units	
A5H	SUBCONTRACTED SRVS		P070	COST ESTIMATORS PLANNERS AN	K109S	Env Svs. Stewardship & Compliance		Linear	575.682.80	Dollars
Factors	154	HOURS PER MONTH	70	dollars per hour	66	MONTHS				

0.80913 [SYS 061500] .80704 - System

**Line Item 2 - administrative support**

**BOE**

Estimators Experience - Subcontracted administrative support from previous similar project at Rock Flats for Compliance, Water and Air programs demonstrate the use of one FTE to support reporting and secretarial requirements. For administrative support this program shares cost with Compliance programs for secretarial support as required. The split is ~ 50% to each program.

A5H cost for FY 99 & 00 from the Joshua project reporting system were used as a basis for this estimate.

Experience Item Desc - Performed similar activities on like programs in previous fiscal years

Breakdown of Cost Data:  
Item - subcontract labor  
Units - A5H (hours)  
Unit Cost - \$45 per hour  
Unit Cost Adjustment factor -

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**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Revised Unit Cost -  
Basis for adjustment - no adjustment

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	G040	SECRETARIES	K109S	Env Sys. Stewardship & Compliance	Linear	185.040.90	Dollars
	Factors	77	HOURS PER MONTH	45	dollars per hour	66	MONTH		

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - office and presentation supplies**

BOE A best guess estimate based on estimated useage over previous years. Shared cost with other departments in past years. No firm data on how much the new organization will require to support presentations and day to day expendalbe's usage. The HAD WBS currently estimates 45 FTE's to support the program. A guideline of \$250/yr/FTE was established by the transition team and was used as a basis.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5C	SUPPLIES	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	52.502.51	Dollars
	Factors	21	dollars per month	66	months	40	FTE's	0.94701	--- FY00 May Earned Value Factor

0.94701 --- FY00 May Earned Value Factor

**Line Item 4 - Records Archiving (water & air)**

BOE Vendor Name - Source one  
Vendor Quote - \$1360 for 26 cubic feet for historical air records given to Radian/c. Patnoe  
Date Received - 3/14/2000  
Item being quoted - air quality documents  
Other Info - used as a baseline for air and water documents  
Availability - on file with Radian

the baseline was for records dated from the 70's through '98. This baseline proposed 26 cubic feet of records archived for 26 hours at negotiated rate TBD (estimated at \$50/hr burdened) and supplies of ~ \$60. The total estiamte for water and air programs used this as a basis times 4. The rationale being that the baseline estimate from Source One stops in '98, the years of '99 thru closure needs to be added to this estimate - assumed same quantity of records used for previous years estimate to be used for '99 forward. Also assumed water programs would have similar record quantities. Take the estimate x 4.

Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	A55	SOURCE ONE		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	5.200.00	Dollars
	Factors	104	hours	50 dollars per hour						
	A55	SOURCE ONE		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	240.00	Dollars
	Factors	240	dollars supplies							

**Line Item SYS - Contingency And Escalation**

BOE										
Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	71.477.45	Dollars
	Factors		71477.5 Dollars							
	ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	30.672.15	Dollars
	Factors		30672.2 Dollars							

Activity ID: 1HXXX13P2 Description: Quality Assurance

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Quality Assurance	0.17	each	EE	2.310	401	14.773	0	0	14.773	7.901	22.674
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	15.295	15.295	0	15.295
Total for Activity 1HXXX13P2:						401	14.773	0	15.295	30.068	7.901	37.969

**Line Item 1 - Quality Assurance**

BOE Estimators Experience - This is a best guess by the Environmental Media Management Program Manager based on past experience with similar program and requirements. This estimate is also based on past experience with QA audits on Water and Air programs, and conversations with QA supervisor's as to what level of support we should require for audits and report reviews. Anticipate ~ .25 FTE. Support was previously supplied by another organization and we have no real discrete costs to use as a basis, therefore the estimators experience was the most reliable basis for this estimate.

Experience Item Desc - FTE level of support to Environmental Systems and Stewardship projects (RMRS and KH)from fiscal year 98 thru 00.  
Breakdown of Cost Data:  
Item - direct labor hours from past fiscal years apportioned to ESS  
Units - hous



WBS No: 1HAD0101  
Activity ID: 1HXXX13P2

**Rockv Flats Closure Project**  
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Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Unit Cost - current hourly rate for QA  
Unit Cost Adjustment factor -  
Revised Unit Cost -  
Basis for adjustment - no adjustment - best guess

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E110	QUALITY CONTROL ENGINEERS	C102S	Quality Assurance	Linear	2,310.00
Factors	35	HOURS PER MONTH	66	MONTH DURATION			Hours

**Line Item SYS - Contingency And Escalation**

**BOE**

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	10,489.82
Factors	10489.8	Dollars					Dollars
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	4,805.24
Factors	4805.24	Dollars					Dollars

WBS No: 1HAD0201 Title: Actinide Migration Evaluation  
Activity ID: 1HAD2110P2 Description: Actinide Migration Evaluation

Cost Risk 2 Schedule Risk 2

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Dispersion Air Modeling	1.00	each	VQ	0	0	0	116,390	0	116,390	0	116,390
2	Erosion and Sediment Transport Modeling	1.00	each	EE	8,586	8,586	309,298	539,705	0	849,003	118,237	967,240
3	Pathway Analysis	1.00	each	EE	2,662	2,662	80,315	291,801	0	372,116	32,877	404,993
4	Advisory Panel/Peer Review/Stakeholder Meetings	1.00	each	EE	1,136	1,136	42,332	1,127,159	0	1,169,491	15,611	1,185,101
5	Actinide Lab Studies and Wetlands Evaluation	1.00	each	EE	1,481	1,481	39,486	1,635,435	0	1,674,921	18,066	1,692,987
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	810,282	810,282	0	810,282
Total for Activity 1HAD2110P2:						13,866	471,431	3,710,490	810,282	4,992,203	184,790	5,176,993

**Line Item 1 - Dispersion Air Modeling**

**BOE**

Basis of Estimate:  
Line Item No. 1, Air Dispersion Modeling  
Vendor Name - Radian  
Vendor Quote - negotiated KH Subcontract (KH900725MB) for FY00; annual subcontract modifications to run "what if" scenarios appropriate for the remedial action planning activities in progress each year are anticipated. Estimator assumes the cost of the outyear scope will be consistent and will be a proportional to the FY00 cost.  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Air Dispersion Modeling for "what if" remedial action scenarios  
Other Info - none  
Availability - Subcontractor will continue to be available at RFETS through the out years  
  
Vendor Name - LANL  
Vendor Quote - current IWO with LANL (M47RF00040/BNR EW05K1010), estimator assumes that the scope will cost approximately the same amount in out years as in FY00.  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Review and comment on the Air Dispersion Modeling methodology and reports  
Other Info - none  
Availability - Subcontractor will continue to be available at RFETS through the out years  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Alternate Linear	100,911.40
Factors	131693	Radian S/C dollars	0.94701	--- FY00 Max Earned Value Factor			Dollars
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Backload	7,662.62
Factors	10000	LANL IWO dollars	0.94701	--- FY00 Max Earned Value Factor			Dollars
0.80913 [SYS 061500] .80704 - System							



WBS No: 1HAD0201  
Activity ID: 1HAD2110P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
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1HAD  
\*

Starts In FY \*

A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	SSOC Type 1	7.815.87	Dollars
Factors	10200	LANL IWO dollars	0.94701	--- FY00 May Earned Value Factor				

0.80913 [SYS 061500] .80704 - System

**Line Item 2 - Erosion and Sediment Transport Modeling**

**BOE**

Line Item No. 2, Erosion and Sediment Transport Modeling  
The estimate is based on a combination of estimator experience and vendor quotes.

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Professional experience related to hydrogeologic and water balance studies, conducted at RFETS and at off-site environmental remediation projects. Project manager and Wadlet manager for previous AME studies at RFETS (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01)

Experience Item Desc - The Erosion and Sediment Transport Modeling will evaluate erosion and channel flow as mechanisms for transporting plutonium (Pu) and americium (Am) with sediments. The modeling will provide information to quantify the transport rates for erosion, and overland and channel flow. Detailed spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C). C. Dayton has direct experience in this field from previous projects at RFETS and other assignments

Breakdown of Cost Data:  
Item - labor hours and ODCs  
Units - direct labor hours, subcontract dollars, ODC dollars, travel dollars  
Unit Cost - see detailed spreadsheet (project records) or resources identified in BEST  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - Subcontracted hours for out years estimated using current negotiated contracts and anticipated changes in scope of work.

Vendor Name - Wright Water Engineers  
Vendor Quote - negotiated KH Subcontract (KH900668MB); annual modifications to interpret and incorporate newly obtained data and AME study results (e.g., Site Water Balance) is anticipated.  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Erosion and Sediment Transport Modeling to support the Actinide Migration Evaluation at RFEST  
Other Info - none  
Availability - Subcontractor will continue to be available at RFETS through the out years

Vendor Name - M-K  
Vendor Quote - negotiated RMRS M-K affiliate subcontract (000101-028) has been novated to KH; new subcontract will be negotiated with K-H after June 30, 2000 to complete the remaining work scope (Win Chromec as the RMRS contract representative).  
Quote Received by - C. Dayton (CTR)  
Date Received - Task awarded on December 14, 2000.  
Item being quoted - Geostatistical Support for the Actinide Migration Project  
Other Info - none  
Availability - Subcontractor will continue to be available at RFETS through the out years

Vendor Name - Colorado State University  
Vendor Quote - negotiated KH Subcontract (KH800211MB1); Option Year 2 exercised  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Watershed Erosion Modeling for the Actinide Migration Studies at the Rocky Flats Environmental Technology Site  
Other Info - awaiting final invoice to close out contract  
Availability - Contract will begin final close out upon receiving final invoice.

Vendor Name - Foothills Engineering Consultants, Inc.  
Vendor Quote - vendor quote received by Win Chromec, RMRS, lead on the Erosion and Sediment Transport Modeling project and by L. Gregory-Frost (copy of e-mail dated May 1, 2000 in Actinide Migration Evaluation project manager's files (C.Dayton, T130C)  
Quote Received by - W. Chromec and L.Gregory-Frost  
Date Received - Subcontract to be negotiated for a period of performance beginning in October 2000.  
Item being quoted - Computer programming to create an interface to the Erosion and Sediment Transport Model that will allow quick and easy entering of data parameters for running numerous scenarios. 844 labor hours x \$60/hour = \$50,640  
Other Info - none  
Availability - Subcontractor will be available in FY2001

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element	Skill	Department	Curve	Quantity	Units
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Project  
WBS Filter  
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\*

Starts In FY \*

750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Front Loaded	1,369.86	Hours
Factors	1446.5	Env Eng/GIS Hours	0.94701	---	FY00 May Earned Value Factor			
750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Front Loaded	7,216.25	Hours
Factors	7620	W Chromec Hours	0.94701	---	FY00 May Earned Value Factor			
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	376,037.10	Dollars
Factors	490742	WWE S/C dollars	0.94701	---	FY00 May Earned Value Factor			
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Alternate Linear	16,873.09	Dollars
Factors	22020	Destiny S/C Dollars	0.94701	---	FY00 May Earned Value Factor			
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	18,390.29	Dollars
Factors	24000	Analytical Serv Dollars	0.94701	---	FY00 May Earned Value Factor			
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	SSOC Type 1	5,264.22	Dollars
Factors	6870	Radian S/C Dollars	0.94701	---	FY00 May Earned Value Factor			
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	SSOC Type 1	16,091.51	Dollars
Factors	21000	CSU S/C Dollars	0.94701	---	FY00 May Earned Value Factor			
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	SSOC Type 1	40,069.38	Dollars
Factors	52292	M-K Affil S/C Dollars	0.94701	---	FY00 May Earned Value Factor			
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	SSOC Type 1	38,313.11	Dollars
Factors	50000	Programmer dollars	0.94701	---	FY00 May Earned Value Factor			
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Alternate Linear	11,364.18	Dollars
Factors	12000	Dollars	0.94701	---	FY00 May Earned Value Factor			
A5R	MISC EXPENSES	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Alternate Linear	17,301.96	Dollars
Factors	18270	Dollars	0.94701	---	FY00 May Earned Value Factor			

**Line Item 3 - Pathway Analysis**

BOE

Line Item No. 3, Pathway Analysis Report  
The estimate is based on a combination of estimator experience and vendor quotes.

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Professional experience related to hydrogeologic and water balance studies conducted at RFETS and at off-site environmental remediation projects.

Experience Item Desc - Research and prepare Pathway Analysis Report. Direct labor hours for other scientists, geologists, environmental engineers and RMRS/RFCSS GIS data entry; subcontractor services for a technical editor to review document, and word processing support (\$1500); and ODCs. Detailed spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C)

Breakdown of Cost Data:  
Breakdown of Cost Data:  
Item - direct labor hours, negotiated subcontract value, and ODC dollars from past project actuals  
Units - labor hours by discipline, subcontract dollars, and ODC dollars by procurement line item.  
Unit Cost - at current labor rate, negotiated line item procurement, and estimated cost of procuring ODCs (see detailed spreadsheet for breakdown of estimated costs and resources.)  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for current estimate

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. FY98 and FY99 Actinide Migration Study actual costs as documented on BEST for Peer Review activities. Spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C)

Experience Item Desc - Subcontractor Peer Review of Pathway Analysis Report

Breakdown of Cost Data:  
Item - subcontract labor  
Units - dollars  
Unit Cost - \$175,000  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA

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Basis for adjustment - no adjustment made for current estimate

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. FY98 and FY99 Actinide Migration Study actuals for similar projects where subcontractors work with RMRS to research, development, coordinate and disposition/incorporate peer reviewer and stakeholder comments, working with AME Advisors to address questions and issues. Spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C) and prior BEST information for the Actinide Migration Evaluation Experience Item Desc - Subcontracted Services from Wright Water Engineers for the preparation and subsequent research and update of the Pathway Analysis Report

Breakdown of Cost Data:

Item - subcontractor labor

Units - dollars

Unit Cost - \$98,875

Unit Cost Adjustment factor - none

Revised Unit Cost - NA

Basis for adjustment - no adjustment made for current estimate

Vendor Name - Exponent

Vendor Quote - task order on negotiated KH Subcontract (8601454.001)

Quote Received by - C. Dayton (CTR)

Date Received - Subcontract awarded in November 1999

Item being quoted - Actinide Biological Mobility Paper

Other Info - none

Availability - Subcontract currently active

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Alternate Linear	1,515.22	Hours
Factors	1600	I Paton/GIS Hours	0.94701 --- FY00 May Earned Value Factor					
750	STRAIGHT TIME BASE	S030	GEOLOGISTS	R100S	RMRS Salaried	Max Frontload	1,004.78	Hours
Factors	1061	R Smith Hours	0.94701 --- FY00 May Earned Value Factor					
750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	SSOC Type 1	142.05	Hours
Factors	150	W ChromechHours	0.94701 --- FY00 May Earned Value Factor					
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Front Loaded	27,746.36	Dollars
Factors	36210	Destinv/GIS Dollars	0.94701 --- FY00 May Earned Value Factor					
						0.80913 ISYS 0615001 .80704 - System		
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Front Loaded	31,585.33	Dollars
Factors	41220	Update S/C Dollars	0.94701 --- FY00 May Earned Value Factor					
						0.80913 ISYS 0615001 .80704 - System		
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Front Loaded	134,095.90	Dollars
Factors	175000	Peer Review Dollars	0.94701 --- FY00 May Earned Value Factor					
						0.80913 ISYS 0615001 .80704 - System		
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Max Frontload	72,699.13	Dollars
Factors	94875	WWE dollars	0.94701 --- FY00 May Earned Value Factor					
						0.80913 ISYS 0615001 .80704 - System		
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	SSOC Type 1	22,790.17	Dollars
Factors	29742	Exponent Dollars	0.94701 --- FY00 May Earned Value Factor					
						0.80913 ISYS 0615001 .80704 - System		
A5R	MISC EXPENSES	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Alternate Linear	2,883.66	Dollars
Factors	3045	dollars	0.94701 --- FY00 May Earned Value Factor					

**Line Item 4 - Advisory Panel/Peer Review/Stakeholder Meetings**

**BOE**

Line Item No. 4, Advisory Panel/ Peer Review/ Stakeholder Meetings

The estimate is based on a combination of estimator experience and vendor quotes.

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Cost estimate based on professional experience related to the technical and stakeholder needs for credible Actinide Migration Evaluation studies. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01). 1998 and 1999 BEST estimates and budget expenditures for work completed. Detailed spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C)

Experience Item Desc - Activity includes contracting with an additional AME Advisor, contracting with a microbiologist/geochemistry Advisor, and

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Starts In FY \*

contracting with a microbiologist/geochemist to conduct peer review on current projects related to biological uptake of actinides and the current and future role of wetlands at RFETS.

Breakdown of Cost Data:

Item - subcontracted labor hours and subcontracted ODCs  
Units - subcontract dollars, and ODC dollars.  
Unit Cost - estimated negotiated line item procurement, and estimated cost of procuring ODCs totaling: \$174200 for additional AME expert; \$214400 for microbiologist/geochemistry Advisor; and \$15000 for microbiologist/wetlands peer reviewer. (see detailed spreadsheet for breakdown of estimated costs and resources.)  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for current estimate

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Professional experience related to the technical and stakeholder needs for credible Actinide Migration Evaluation studies. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01). 1998 and 1999 BEST estimates and budget expenditures for work completed. Detailed spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C)

Experience Item Desc - Direct labor hours for other scientists to support the Actinide Migration Evaluation Advisor and Stakeholder meetings; RMRS/RFCSS GIS data entry for maps and presentation materials for stakeholder meetings (e.g., AME public meetings, RFSALOP meetings, RFCLOG meetings, RFCA Project Coordinator meetings)

Breakdown of Cost Data:

Item - direct labor hours and ODC dollars from past project actuals  
Units - labor hours by discipline and ODC dollars by procurement line item.  
Unit Cost - at current labor rate and estimated cost of procuring ODCs  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for current estimate

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01).

Experience Item Desc - Travel cost estimate includes two types of travel. (1) travel for two LANL Advisors and specialists, as necessary, to attend AME Advisor and Stakeholder Meetings. (Estimate 88 round trips to/from LANL) (2) travel for one KH and one subcontractor to attend pertinent AME conferences (Estimate 9 round trips). Detailed spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C)

Breakdown of Cost Data:

Item - dollars  
Units - estimated cost of procuring travel  
Unit Cost - \$147,000 for travel (see detailed spreadsheet or resources identified in BEST)  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for current estimate

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01).

Experience Item Desc -ODC cost estimate includes two types of ODCs. (1) meeting room rental and beverages/food services during AME Advisor and Stakeholder meetings, estimate based on FY99 actuals for JeffCo Airport, Breadwinners, and Broomfield Guesthouse (2) conference registration fees for two attendees at a conference pertaining to AME. Detailed spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C)

Breakdown of Cost Data:

Item - dollars  
Units - estimated cost of procuring ODCs based actual project costs in FY99 and FY00  
Unit Cost - \$37650 (see detailed spreadsheet or resources identified in BEST)  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for current estimate

Vendor Name - Florida State University, Dr. Gregory Choppin  
Vendor Quote - negotiated fixed price KH Subcontract (KH800219MB)  
Date Received - Subcontract awarded on September 30, 1999  
Item being quoted - Peer Review of the Actionide Migration Studies at the Rocky Flats Environmental Technology Site  
Other Info - work will continue through 2006  
Availability - Subcontractor will be available through the out years. If subcontractor becomes unavailable an alternate will be identified and a new subcontract awarded for the identified scope.

Vendor Name - LANL, Dr. Dave Janecky and Dr. Dave Clark and other LANL Subject Matter Experts  
Vendor Quote - current IWO with LANL (M47RF00040/BNR EW05K1010), activities in out years same as in FY2000.  
Quote Received by - C. Dayton (CTR)

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Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Function as Advisors and Peer Reviewers for the Actinide Migrations Studies at Rocky Flats Environmental Technology Site  
Other Info - work will continue through 2006  
Availability - Subcontractor will be available through the out years. If subcontractor becomes unavailable an alternate will be identified and a new subcontract awarded for the identified scope.

Vendor Name - USDA, Dr. Leonard Lane  
Vendor Quote - current negotiated KH Subcontract (KH900238MB1), activities in out years similar to FY2000.  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Technical Advisor for the Erosion and Sediment Transport Model, one of the Actinide Migration Evaluation Studies  
Other Info - work will continue through 2006  
Availability - Subcontractor will be available through the out years. If subcontractor becomes unavailable an alternate will be identified and a new subcontract awarded for the identified scope.

Vendor Name - Wright Water Engineers  
Vendor - anticipated modification to negotiated KH Subcontract (KH900668MB)  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Project management and technical services associated with the successful implementation and coordination of the activities and review comments of the AME Advisors, AME Peer Reviewers, and the Citizens Advisory Board  
Other Info - work will continue through 2002  
Availability - Subcontractor will be available through the out years. If subcontractor becomes unavailable an alternate will be identified and a new subcontract awarded for the identified scope

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	1.136.42	Hours
Factors	1200 W Chromec Hours	0.94701 --- FY00 May Earned Value Factor						
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	47.807.10	Dollars
Factors	62390 Destinv/GIS S/C Dollars	0.94701 --- FY00 May Earned Value Factor						
0.80913 ISYS 0615001.80704 - Svstem								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Triangular	123.215.00	Dollars
Factors	160800 Wetland/Microbio Advisor Dollars	0.94701 --- FY00 May Earned Value Factor						
0.80913 ISYS 0615001.80704 - Svstem								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	360.207.60	Dollars
Factors	470084 LANL IWO Dollars	0.94701 --- FY00 May Earned Value Factor						
0.80913 ISYS 0615001.80704 - Svstem								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	164.897.30	Dollars
Factors	215197 FSU S/C Dollars	0.94701 --- FY00 May Earned Value Factor						
0.80913 ISYS 0615001.80704 - Svstem								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	11.493.93	Dollars
Factors	15000 Geochem/Wetlands Peer Review	0.94701 --- FY00 May Earned Value Factor						
0.80913 ISYS 0615001.80704 - Svstem								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	155.785.70	Dollars
Factors	203306 USDA S/C Dollars	0.94701 --- FY00 May Earned Value Factor						
0.80913 ISYS 0615001.80704 - Svstem								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	88.886.41	Dollars
Factors	116000 WWE S/C Dollars	0.94701 --- FY00 May Earned Value Factor						
0.80913 ISYS 0615001.80704 - Svstem								
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	139.211.20	Dollars
Factors	147000 Dollars	0.94701 --- FY00 May Earned Value Factor						
A5R	MISC EXPENSES	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	35.655.11	Dollars
Factors	37650 Dollars	0.94701 --- FY00 May Earned Value Factor						

**Line Item 5 - Actinide Lab Studies and Wetlands Evaluation**

**BOE**

Line Item No. 5, Actinide Lab Studies and Wetlands Evaluations  
The cost estimate is based on technical estimates that are reviewed for reasonableness and consistency by the Estimator (C.Dayton), estimator's expertise,

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and vendor quotes.

Technical Estimate from RMRS based on the charges associated with the sampling in January 2000 (including Vendor Quotes). Estimator (C.Dayton) considers the technical estimate reasonable considering the actual costs incurred for previous AME soil sampling activities. Actual costs documented through Joshua, P&I BEST for WAD 1, WBS 1.1.03.06.01.08 in FY99 and FY00.

Subcontractor Names - RMRS, LATA, SSOC, CASI, and RTG  
Vendor - subcontracts in place for CASI and RTG through KH RISS  
Quote Received by - C. Dayton (CTR) and L. Gregory-Frost

Date Received - e-mail from Mark Wood and Mark Gohr (e-mail dated March 2, 2000)

Item being quoted - Soil sampling near 528 pit OPWL release, 779 D&D soil sample, and two other samples (locations to be determined) for Pu valence analyses to be used for Actinide Migration modeling. This estimate includes the costs for the January 2000 OPWL sample, the 779 D&D soil sample, the May 2000 OPWL sampling and two proposed samples in FY01. Detailed breakdown of cost estimate located in Actinide Migration Evaluation project management files.

Other Info - work will continue through 2001  
Availability - no issues.

Technical Estimate from RMRS based on the charges associated with historical groundwater sampling at RFETS (including Vendor Quotes.) Copies of e-mails regarding cost estimates in Actinide Migration project management files (C. Dayton, T130C)

Subcontractor Names - RMRS, CASI and RTG  
Vendor - subcontracts in place for CASI and RTG through KH RISS  
Quote Received by - C. Dayton (CTR) and L. Gregory-Frost

Date Received - e-mail from and telephone conversations with Rob Smith, RMRS (e-mails dated March 7, and May 1, 2000, telephone conversation on April 10, 2000)

Item being quoted - Groundwater sampling of Pu aseptic wells and their twin well. Collection, preparation, and shipment of bailed unfiltered samples, pumped unfiltered, and pumped filtered samples. Estimated cost \$35,869

Other Info - work will be completed in FY00  
Availability - no issues.

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01). Cost estimate based on a comparison with similar AME studies such as Phase Speciation and Ultrafiltration Analyses of Surface Water, Uranium Geochemical Modeling, Erosion and Sediment Transport Analysis, and other AME studies.

Experience Item Desc - Vadose Zone Analysis to support Actinide Migration Evaluation conceptual model development, Pathway Analysis, Erosion and Sediment Transport Analysis, Performance Assessment, remedial action alternatives analysis, Comprehensive Risk Assessment, and final Corrective Action Decision/Record of Decision.

Breakdown of Cost Data:

Item - subcontractor cost to support analysis  
Units - dollars, labor  
Unit Cost - estimate \$100,000 in Subcontractor costs  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - None

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01). Cost estimate based on a comparison with similar AME studies such as Phase Speciation and Ultrafiltration Analyses of Surface Water, Uranium Geochemical Modeling, Erosion and Sediment Transport Analysis, and other AME studies.

Experience Item Desc - Uranium Transport Modeling to support Actinide Migration Evaluation conceptual model development, Pathway Analysis, Erosion and Sediment Transport Analysis, Performance Assessment, remedial action alternatives analysis, Comprehensive Risk Assessment, and final Corrective Action Decision/Record of Decision.

Breakdown of Cost Data:

Item - subcontractor cost to support modeling  
Units - dollars, labor  
Unit Cost - \$102,300 in Subcontractor costs  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - None

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01). Cost estimate based on a comparison with similar sampling and analysis requirements.

Experience Item Desc - Multi-media sampling to support Actinide Migration Evaluation conceptual model development, Pathway Analysis, Erosion and Sediment Transport Analysis, Performance Assessment, remedial action alternatives analysis, Comprehensive Risk Assessment, and final Corrective Action Decision/Record of Decision; and to answer questions that arise regarding Actinide Migration. Cost estimate for Pu, Am, U analyses, for onsite subcontracted services for IH and Rad Engineering; RCT labor hours, RMRS surface sampler labor hours.

Breakdown of Cost Data:

Item - subcontractor unit costs, subcontractor labor hours, direct labor hours



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Units - subcontractor dollars and direct labor hours  
Unit Cost - \$281,000 for Pu, Am, U analyses, \$5000 for onsite subcontracted services for IH and Rad Eng for sample collection, 600 hours RCT time (T050, KJ10H), 500 hours of RMRS surface water sampler (S020 R100S) (detailed breakdown of costs included in detailed spreadsheets in Actinide Migration Evaluation project manager's files (C. Dayton, T130C))  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustments made for this estimate

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01). Cost estimate based on a comparison with similar AME studies such as Phase Speciation and Ultrafiltration Analyses of Surface Water, Uranium Geochemical Modeling, Erosion and Sediment Transport Analysis, and other AME studies.

Experience Item Desc - Wetlands feasibility studies and studies to support the design and implementation of caps, wetlands and associated environmental sampling. The results of these studies will provide input into the Pathway Analysis, Erosion and Sediment Transport Analysis, Performance Assessment, remedial action alternatives analysis, Comprehensive Risk Assessment, and final Corrective Action Decision/Record of Decision.

Breakdown of Cost Data:  
Item - subcontractor labor hours  
Units - dollars  
Unit Cost - \$1,125,000 in Subcontractor costs  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for this estimate

Vendor Name - LANL, Murrell and Keogh  
Vendor Quote - current IWO with LANL (M47RF00040/BNR EW05K1010)  
Quote Received by - C. Dayton (CTR) for \$70500  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Pu valence analysis for soils  
Other Info - work will continue through 2001  
Availability - LANL will be available as needed to complete the IWO scope

Vendor Name - Texas A&M, Dr. Peter Santschi  
Vendor Quote - current negotiated KH Subcontract (KH900674)  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded in December, 1999  
Item being quoted - Phase Speciation and Ultrafiltration Analyses in support of the Actinide Migration Evaluation  
Other Info - none  
Availability - TAMU will be available as needed to complete the contract scope

Vendor Name - Rocky Mountain Compliance Consultants Incorporated (RMC Consultants, Inc)  
Vendor Quote - current negotiated KH Subcontract (KH90669MB)  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded in September 24, 1999  
Item being quoted - Quality Assurance and Geochemistry Support to the Actinide Migration Evaluation  
Other Info - the contracted scope will continue through 2005  
Availability - RMC Consultants, Inc. will be available as needed to complete the contract scope. If RMC is not available, another subcontractor will be contracted to complete the contracted scope.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Max Frontload	227.28	Hours
Factors	240 M Wood Hours	0.94701 --- FY00 Max Earned Value Factor						
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	R100S	RMRS Salaried	Max Frontload	30.30	Hours
Factors	32 Rad Eng Hours	0.94701 --- FY00 Max Earned Value Factor						
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K312S	Construction	Max Frontload	60.61	Hours
Factors	64 Const Mat Hours	0.94701 --- FY00 Max Earned Value Factor						
750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Max Frontload	3.79	Hours
Factors	4 Admin Hours	0.94701 --- FY00 Max Earned Value Factor						
750	STRAIGHT TIME BASE	L030	UTILITY WORKER	KJ10H	Support Proj Steelworkers	Max Frontload	75.76	Hours
Factors	80 SOEs Hours	0.94701 --- FY00 Max Earned Value Factor						
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Max Frontload	18.94	Hours
Factors	20 Rad Ops Hours	0.94701 --- FY00 Max Earned Value Factor						



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750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Max Frontload	77.66	Hours
Factors	82	IH/Ind Safety Hours	0.94701	---	FY00 Max Earned Value Factor			
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Max Frontload	405.32	Hours
Factors	428	Env Sci Hours	0.94701	---	FY00 Max Earned Value Factor			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KJ10H	Support Proj Steelworkers	Max Frontload	568.21	Hours
Factors	600	RCT Hours	0.94701	---	FY00 Max Earned Value Factor			
750	STRAIGHT TIME BASE	T100	D&D CONSTRUCTION TRADES (incl.	K777C	Construction	Max Frontload	13.26	Hours
Factors	14	Excavation Specialist Hours	0.94701	---	FY00 Max Earned Value Factor			
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	216,563.30	Dollars
Factors	282623	RMC/DQO S/Cdollars	0.94701	---	FY00 Max Earned Value Factor			
						0.80913	[SYS 061500] .80704 - Svstem	
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Triangular	192,331.80	Dollars
Factors	251000	Analytical (Pu,Am, U) dollars	0.94701	---	FY00 Max Earned Value Factor			
						0.80913	[SYS 061500] .80704 - Svstem	
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Alternate Linear	3,065.05	Dollars
Factors	4000	Rad Eng/IH Dollars	0.94701	---	FY00 Max Earned Value Factor			
						0.80913	[SYS 061500] .80704 - Svstem	
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	2,582.30	Dollars
Factors	3370	Analytical dollars	0.94701	---	FY00 Max Earned Value Factor			
						0.80913	[SYS 061500] .80704 - Svstem	
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	107,276.70	Dollars
Factors	140000	LANL IWO/Pu Valence Analysis	0.94701	---	FY00 Max Earned Value Factor			
						0.80913	[SYS 061500] .80704 - Svstem	
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	78,388.63	Dollars
Factors	102300	Uranium transport modeling S/C	0.94701	---	FY00 Max Earned Value Factor			
						0.80913	[SYS 061500] .80704 - Svstem	
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	SSOC Type 1	91,951.47	Dollars
Factors	120000	Texas A&M S/C dollars	0.94701	---	FY00 Max Earned Value Factor			
						0.80913	[SYS 061500] .80704 - Svstem	
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	RMRS Type 2	551,708.80	Dollars
Factors	720000	Wetlands S/C dollars	0.94701	---	FY00 Max Earned Value Factor			
						0.80913	[SYS 061500] .80704 - Svstem	
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	RMRS Type 2	352,480.60	Dollars
Factors	460000	Vadose Zone S/C dollars	0.94701	---	FY00 Max Earned Value Factor			
						0.80913	[SYS 061500] .80704 - Svstem	
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Max Frontload	3,371.55	Dollars
Factors	4400	Geoprobe S/C Dollars	0.94701	---	FY00 Max Earned Value Factor			
						0.80913	[SYS 061500] .80704 - Svstem	
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Max Frontload	2,835.17	Dollars
Factors	3700	Rad Screen/sample shipment Dollars	0.94701	---	FY00 Max Earned Value Factor			
						0.80913	[SYS 061500] .80704 - Svstem	
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Max Frontload	3,065.05	Dollars
Factors	4000	Sampler S/C Dollars	0.94701	---	FY00 Max Earned Value Factor			
						0.80913	[SYS 061500] .80704 - Svstem	
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	SSOC Type 1	27,485.06	Dollars
Factors	35869	CASI/RTG Aseptic Well Sampling	0.94701	---	FY00 Max Earned Value Factor			
						0.80913	[SYS 061500] .80704 - Svstem	
A5H	SUBCONTRACTED SRVS	0000	NONE	KB10H	707 Complex Steelworkers	Max Frontload	2,329.44	Dollars
Factors	3040	Maint Planning S/C Dollars	0.94701	---	FY00 Max Earned Value Factor			
						0.80913	[SYS 061500] .80704 - Svstem	

Line Item SYS - Contingency And Escalation

BOE

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
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CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	527,776.50	Dollars
<i>Factors</i> 527777 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	282,505.80	Dollars
<i>Factors</i> 282506 Dollars								

Activity ID: 1HAD2120P2 Description: Uranium Analysis of Groundwater Samples

Cost Risk 2 Schedule Risk 2

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Uranium Analysis	1.00	each	EE	0	0	0	49.676	0	49.676	0	49.676
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	479	479	0	479
Total for Activity 1HAD2120P2:						0	0	49.676	479	50.154	0	50.154

**Line Item 1 - Uranium Analysis**

BOE	Vendor Name - LANL Vendor Quote - current IWO with LANL (M47RF00040/BNR EW05K1010) Quote Received by - C. Dayton (CTR) Date Received - Subcontract awarded on October 1, 1999 Item being quoted - High-Resolution Inductively-Coupled Plasma Mass Spectrometry (HR-ICP/MS) analyses on groundwater samples to distinguish between background uranium isotopes and enriched or depleted uranium isotopes (U) Other Info - work will continue through 2001 Availability - Subcontractor will be available through the out years. If subcontractor becomes unavailable an alternate will be identified and a new subcontract awarded for the identified scope.  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.											
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	49.675.52	Dollars
	<i>Factors</i> 75500    LANL IWO dollars                      0.81316    --- FY00 May Earned Value Factor								

0.80913 [SYS 061500] .80704 - System

**Line Item SYS - Contingency And Escalation**

BOE										
Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	278.66	Dollars
	Factors 278.659 Dollars									
	ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	200.32	Dollars
	Factors 200.316 Dollars									

Activity ID: 1HAD2130P2 Description: Prescribed Burn

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Prescribed Burn	1.00	each	VQ	0	0	0	147.028	0	147.028	0	147.028
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	1.639	1.639	0	1.639
Total for Activity 1HAD2130P2:						0	0	147.028	1.639	148.666	0	148.666

**Line Item 1 - Prescribed Burn**

BOE	Vendor Name - Radian International Vendor Quote - \$210,000 Quote Received by - Procurement & Environmental Media Management Program Manager Date Received - March 00 Item being quoted - Prescribed burn and test support Other Info - no previous data to support estimate - new effort Availability - change proposal 200-1171 and procurement documents for subcontract award  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.											
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Resources	Cost Element			Skill		Department		Curve	Quantity	Units	
	A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance		Front Loaded	147.027.70	Dollars
	Factors	210000 Radian S/C dollars		0.86529 --- FY00 Max Earned Value Factor							

0.80913 [SYS 061500] .80704 - System

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**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	953.34	Dollars
Factors 953.345 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	685.32	Dollars
Factors 685.319 Dollars								

Activity ID: 1HXXX21P2 Description: Actinide Migration Evaluation - FY06

Cost Risk 2 Schedule Risk 2

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Dispersion Air Modeling	0.17	each	VQ	0	0	0	20.194	0	20.194	0	20.194
2	Erosion and Sediment Transport Modeling	0.17	each	EE	8.586	1.490	53.664	93.640	0	147.303	25.694	172.997
3	Pathway Analysis	0.17	each	EE	2.662	462	13.935	50.628	0	64.563	6.301	70.864
4	Advisory Panel/Peer Review/Stakeholder Meetings	0.17	each	EE	1.136	197	7.345	195.564	0	202.909	3.928	206.837
5	Actinide Lab Studies and Wetlands Evaluation	0.17	each	EE	1.481	257	6.851	283.751	0	290.601	2.397	292.999
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	563.582	563.582	0	563.582
Total for Activity 1HXXX21P2:						2.406	81.794	643.776	563.582	1,289.151	38.321	1,327.472

**Line Item 1 - Dispersion Air Modeling**

**BOE**

Basis of Estimate:  
Line Item No. 1, Air Dispersion Modeling  
Vendor Name - Radian  
Vendor Quote - negotiated KH Subcontract (KH900725MB) for FY00; annual subcontract modifications to run "what if" scenarios appropriate for the remedial action planning activities in progress each year are anticipated. Estimator assumes the cost of the outyear scope will be consistent and will be a proportional to the FY00 cost.  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Air Dispersion Modeling for "what if" remedial action scenarios  
Other Info - none  
Availability - Subcontractor will continue to be available at RFETS through the out years  
  
Vendor Name - LANL  
Vendor Quote - current IWO with LANL (M47RF00040/BNR EW05K1010), estimator assumes that the scope will cost approximately the same amount in out years as in FY00.  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Review and comment on the Air Dispersion Modeling methodology and reports  
Other Info - none  
Availability - Subcontractor will continue to be available at RFETS through the out years  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Alternate Linear	100.911.40	Dollars
Factors 131693 Radian S/C dollars 0.94701 --- FY00 May Earned Value Factor								
							0.80913 [SYS 061500] .80704 - System	
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Max Backload	7.662.62	Dollars
Factors 10000 LANL IWO dollars 0.94701 --- FY00 May Earned Value Factor								
							0.80913 [SYS 061500] .80704 - System	
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	SSOC Type 1	7.815.87	Dollars
Factors 10200 LANL IWO dollars 0.94701 --- FY00 May Earned Value Factor								
							0.80913 [SYS 061500] .80704 - System	

**Line Item 2 - Erosion and Sediment Transport Modeling**

**BOE**

Line Item No. 2, Erosion and Sediment Transport Modeling  
The estimate is based on a combination of estimator experience and vendor quotes.  
  
Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Professional experience related to hydrogeologic and water balance studies, conducted at RFETS and at off-site environmental remediation projects. Project manager and Wadlet manager for

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previous AME studies at RFETS (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01)  
Experience Item Desc - The Erosion and Sediment Transport Modeling will evaluate erosion and channel flow as mechanisms for transporting plutonium (Pu) and americium (Am) with sediments. The modeling will provide information to quantify the transport rates for erosion, and overland and channel flow. Detailed spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C). C. Dayton has direct experience in this field from previous projects at RFETS and other assingments

Breakdown of Cost Data:  
Item - labor hours and ODCs  
Units - direct labor hours, subcontract dollars, ODC dollars, travel dollars  
Unit Cost - see detailed spreadsheet (project records) or resources identified in BEST  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - Subcontracted hours for out years estimated using current negotiated contracts and anticipated changes in scope of work.

Vendor Name - Wright Water Engineers  
Vendor Quote - negotiated KH Subcontract (KH900668MB); annual modifications to interpret and incorporate newly obtained data and AME study results (e.g., Site Water Balance) is anticipated.  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Erosion and Sediment Transport Modeling to support the Actinide Migration Evaluation at RFEST  
Other Info - none  
Availability - Subcontractor will continue to be available at RFETS through the out years

Vendor Name - M-K  
Vendor Quote - negotiated RMRS M-K affiliate subcontract (000101-028) has been novated to KH; new subcontract will be negotiated with K-H after June 30, 2000 to complete the remaining work scope (Win Chromec as the RMRS contract representative).  
Quote Received by - C. Dayton (CTR)  
Date Received - Task awarded on December 14, 2000.  
Item being quoted - Geostatistical Support for the Actinide Migration Project  
Other Info - none  
Availability - Subcontractor will continue to be available at RFETS through the out years

Vendor Name - Colorado State University  
Vendor Quote - negotiated KH Subcontract (KH800211MB1); Option Year 2 excercised  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Watershed Erosion Modeling for the Actinide Migration Studies at the Rocky Flats Environmental Technology Site  
Other Info - awaiting final invoice to close out contract  
Availability - Contract will begin final close out upon receiving final invoice.

Vendor Name - Foothills Engineering Consultants, Inc.  
Vendor Quote - vendor quote received by Win Chromec, RMRS, lead on the Erosion and Sediment Transport Modeling project and by L. Gregory-Frost (copy of e-mail dated May 1, 2000 in Actinide Migration Evaluation project manager's files (C.Dayton, T130C)  
Quote Received by - W. Chromec and L.Gregory-Frost  
Date Received - Subcontract to be negotiated for a period of performance beginning in October 2000.  
Item being quoted - Computer programming to create an interface to the Erosion and Sediment Transport Model that will allow quick and easy entering of data parameters for running numerous scenarios. 844 labor hours x \$60/hour = \$50,640  
Other Info - none  
Availability - Subcontractor will be available in FY2001

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Front Loaded	1.369.86	Hours
Factors	1446.5	Env Ena/GIS Hours	0.94701 --- FY00 Mav Earned Value Factor						
750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Front Loaded	7.216.25	Hours	
Factors	7620	W Chromec Hours	0.94701 --- FY00 Mav Earned Value Factor						
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	376.037.10	Dollars	
Factors	490742	WWE S/C dollars	0.94701 --- FY00 Mav Earned Value Factor						
							0.80913 [SYS 061500]	.80704 - System	

WBS No: 1HAD0201  
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**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Alternate Linear	16.873.09	Dollars
Factors	22020	Destiny S/C Dollars	0.94701	--- FY00 May Earned Value Factor				
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	18.390.29	Dollars
Factors	24000	Analytical Serv Dollars	0.94701	--- FY00 May Earned Value Factor				
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	SSOC Type 1	5.264.22	Dollars
Factors	6870	Radian S/C Dollars	0.94701	--- FY00 May Earned Value Factor				
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	SSOC Type 1	16.091.51	Dollars
Factors	21000	CSU S/C Dollars	0.94701	--- FY00 May Earned Value Factor				
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	SSOC Type 1	40.069.38	Dollars
Factors	52292	M-K Affil S/C Dollars	0.94701	--- FY00 May Earned Value Factor				
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	SSOC Type 1	38.313.11	Dollars
Factors	50000	Programmer dollars	0.94701	--- FY00 May Earned Value Factor				
0.80913 [SYS 061500] .80704 - Svstem								
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Alternate Linear	11.364.18	Dollars
Factors	12000	Dollars	0.94701	--- FY00 May Earned Value Factor				
A5R	MISC EXPENSES	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Alternate Linear	17.301.96	Dollars
Factors	18270	Dollars	0.94701	--- FY00 May Earned Value Factor				

**Line Item 3 - Pathway Analysis**

**BOE**

Line Item No. 3, Pathway Analysis Report  
The estimate is based on a combination of estimator experience and vendor quotes.

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Professional experience related to hydrogeologic and water balance studies conducted at RFETS and at off-site environmental remediation projects.  
Experience Item Desc - Research and prepare Pathway Analysis Report. Direct labor hours for other scientists, geologists, environmental engineers and RMRS/RFCSS GIS data entry; subcontractor services for a technical editor to review document, and word processing support (\$1500); and ODCs. Detailed spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C)  
Breakdown of Cost Data:  
Breakdown of Cost Data:  
Item - direct labor hours, negotiated subcontract value, and ODC dollars from past project actuals  
Units - labor hours by discipline, subcontract dollars, and ODC dollars by procurement line item.  
Unit Cost - at current labor rate, negotiated line item procurement, and estimated cost of procuring ODCs (see detailed spreadsheet for breakdown of estimated costs and resources.)  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for current estimate

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. FY98 and FY99 Actinide Migration Study actual costs as documented on BEST for Peer Review activities. Spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C)  
Experience Item Desc - Subcontractor Peer Review of Pathway Analysis Report  
Breakdown of Cost Data:  
Item - subcontract labor  
Units - dollars  
Unit Cost - \$175,000  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for current estimate

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. FY98 and FY99 Actinide Migration Study actuals for similar projects where subcontractors work with RMRS to research, development, coordinate and disposition/incorporate peer reviewer and stakeholder comments, working with AME Advisors to address questions and issues. Spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C) and prior BEST information for the Actinide Migration Evaluation  
Experience Item Desc - Subcontracted Services from Wright Water Engineers for the preparation and subsequent research and update of the Pathway Analysis Report

WBS No: 1HAD0201  
Activity ID: 1HXXX21P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Breakdown of Cost Data:  
Item - subcontractor labor  
Units - dollars  
Unit Cost - \$98,875  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for current estimate

Vendor Name - Exponent  
Vendor Quote - task order on negotiated KH Subcontract (8601454.001)  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded in November 1999  
Item being quoted - Actinide Biological Mobility Paper  
Other Info - none  
Availability - Subcontract currently active

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Alternate Linear	1,515.22	Hours
Factors	1600	I Paton/GIS Hours	0.94701 --- FY00 May Earned Value Factor					
750	STRAIGHT TIME BASE	S030	GEOLOGISTS	R100S	RMRS Salaried	Max Frontload	1,004.78	Hours
Factors	1061	R Smith Hours	0.94701 --- FY00 May Earned Value Factor					
750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	SSOC Type 1	142.05	Hours
Factors	150	W ChromecHours	0.94701 --- FY00 May Earned Value Factor					
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	134,095.90	Dollars
Factors	175000	Peer Review Dollars	0.94701 --- FY00 May Earned Value Factor					
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	27,746.36	Dollars
Factors	36210	Destiny/GIS Dollars	0.94701 --- FY00 May Earned Value Factor					
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	31,585.33	Dollars
Factors	41220	Update S/C Dollars	0.94701 --- FY00 May Earned Value Factor					
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	72,699.13	Dollars
Factors	94875	WWE dollars	0.94701 --- FY00 May Earned Value Factor					
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	SSOC Type 1	22,790.17	Dollars
Factors	29742	Exponent Dollars	0.94701 --- FY00 May Earned Value Factor					
A5R	MISC EXPENSES	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Alternate Linear	2,883.66	Dollars
Factors	3045	dollars	0.94701 --- FY00 May Earned Value Factor					

**Line Item 4 - Advisory Panel/Peer Review/Stakeholder Meetings**

**BOE**

Line Item No. 4, Advisory Panel/ Peer Review/ Stakeholder Meetings  
The estimate is based on a combination of estimator experience and vendor quotes.

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Cost estimate based on professional experience related to the technical and stakeholder needs for credible Actinide Migration Evaluation studies. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01). 1998 and 1999 BEST estimates and budget expenditures for work completed. Detailed spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C)

Experience Item Desc - Activity includes contracting with an additional AME Advisor, contracting with a microbiologist/geochemistry Advisor, and contracting with a microbiologist/geochemist to conduct peer review on current projects related to biological uptake of actinides and the current and future role of wetlands at RFETS.

Breakdown of Cost Data:

Item - subcontracted labor hours and subcontracted ODCs  
Units - subcontract dollars, and ODC dollars.

Unit Cost - estimated negotiated line item procurement, and estimated cost of procuring ODCs totaling: \$174200 for additional AME expert; \$214400 for microbiologist/geochemistry Advisor; and \$15000 for microbiologist/wetlands peer reviewer. (see detailed spreadsheet for breakdown of estimated costs and resources.)



WBS No: 1HAD0201  
Activity ID: 1HXXX21P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

*Starts In FY* \*

Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for current estimate

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Professional experience related to the technical and stakeholder needs for credible Actinide Migration Evaluation studies. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01). 1998 and 1999 BEST estimates and budget expenditures for work completed. Detailed spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C)

Experience Item Desc - Direct labor hours for other scientists to support the Actinide Migration Evaluation Advisor and Stakeholder meetings; RMRS/RFCSS GIS data entry for maps and presentation materials for stakeholder meetings (e.g., AME public meetings, RFSALOP meetings, RFCLOG meetings, RFCA Project Coordinator meetings)

Breakdown of Cost Data:  
Item - direct labor hours and ODC dollars from past project actuals  
Units - labor hours by discipline and ODC dollars by procurement line item.  
Unit Cost - at current labor rate and estimated cost of procuring ODCs  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for current estimate

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01).

Experience Item Desc - Travel cost estimate includes two types of travel. (1) travel for two LANL Advisors and specialists, as necessary, to attend AME Advisor and Stakeholder Meetings. (Estimate 88 round trips to/from LANL) (2) travel for one KH and one subcontractor to attend pertinent AME conferences (Estimate 9 round trips). Detailed spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C)

Breakdown of Cost Data:  
Item - dollars  
Units - estimated cost of procuring travel  
Unit Cost - \$147,000 for travel (see detailed spreadsheet or resources identified in BEST)  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for current estimate

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01).

Experience Item Desc -ODC cost estimate includes two types of ODCs. (1) meeting room rental and beverages/food services during AME Advisor and Stakeholder meetings, estimate based on FY99 actuals for JeffCo Airport, Breadwinners, and Broomfield Guesthouse (2) conference registration fees for two attendees at a conference pertaining to AME. Detailed spreadsheets located in the Actinide Migration project management files (C.Dayton, T130C)

Breakdown of Cost Data:  
Item - dollars  
Units - estimated cost of procuring ODCs based actual project costs in FY99 and FY00  
Unit Cost - \$37650 (see detailed spreadsheet or resources identified in BEST)  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for current estimate

Vendor Name - Florida State University, Dr. Gregory Choppin  
Vendor Quote - negotiated fixed price KH Subcontract (KH800219MB)  
Date Received - Subcontract awarded on September 30, 1999  
Item being quoted - Peer Review of the Actionide Migration Studies at the Rocky Flats Environmental Technology Site  
Other Info - work will continue through 2006  
Availability - Subcontractor will be available through the out years. If subcontractor becomes unavailable an alternate will be identified and a new subcontract awarded for the identified scope.

Vendor Name - LANL, Dr. Dave Janecky and Dr. Dave Clark and other LANL Subject Matter Experts  
Vendor Quote - current IWO with LANL (M47RF00040/BNR EW05K1010), activities in out years same as in FY2000.  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Function as Advisors and Peer Reviewers for the Actinide Migrations Studies at Rocky Flats Environmental Technology Site  
Other Info - work will continue through 2006  
Availability - Subcontractor will be available through the out years. If subcontractor becomes unavailable an alternate will be identified and a new subcontract awarded for the identified scope.

Vendor Name - USDA, Dr. Leonard Lane  
Vendor Quote - current negotiated KH Subcontract (KH900238MB1), activities in out years similar to FY2000.



WBS No: 1HAD0201  
Activity ID: 1HXXX21P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Technical Advisor for the Erosion and Sediment Transport Model, one of the Actinide Migration Evaluation Studies  
Other Info - work will continue through 2006  
Availability - Subcontractor will be available through the out years. If subcontractor becomes unavailable an alternate will be identified and a new subcontract awarded for the identified scope.

Vendor Name - Wright Water Engineers  
Vendor - anticipated modification to negotiated KH Subcontract (KH900668MB)  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Project management and technical services associated with the successful implementation and coordination of the activities and review comments of the AME Advisors, AME Peer Reviewers, and the Citizens Advisory Board  
Other Info - work will continue through 2002  
Availability - Subcontractor will be available through the out years. If subcontractor becomes unavailable an alternate will be identified and a new subcontract awarded for the identified scope

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	1,136.42	Hours
Factors	1200 W Chromec Hours	0.94701	--- FY00 Max Earned Value Factor					
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	47,807.10	Dollars
Factors	62390 Destinv/GIS S/C Dollars	0.94701	--- FY00 Max Earned Value Factor					
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Triangular	123,215.00	Dollars
Factors	160800 Wetland/Microbio Advisor Dollars	0.94701	--- FY00 Max Earned Value Factor					
0.80913 [SYS 061500] .80704 - System								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	360,207.60	Dollars
Factors	470084 LANL IWO Dollars	0.94701	--- FY00 Max Earned Value Factor					
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	164,897.30	Dollars
Factors	215197 FSU S/C Dollars	0.94701	--- FY00 Max Earned Value Factor					
0.80913 [SYS 061500] .80704 - System								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	11,493.93	Dollars
Factors	15000 Geochem/Wetlands Peer Review	0.94701	--- FY00 Max Earned Value Factor					
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	155,785.70	Dollars
Factors	203306 USDA S/C Dollars	0.94701	--- FY00 Max Earned Value Factor					
0.80913 [SYS 061500] .80704 - System								
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	88,886.41	Dollars
Factors	116000 WWE S/C Dollars	0.94701	--- FY00 Max Earned Value Factor					
0.80913 [SYS 061500] .80704 - Svstem								
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	139,211.20	Dollars
Factors	147000 Dollars	0.94701	--- FY00 Max Earned Value Factor					
A5R	MISC EXPENSES	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	35,655.11	Dollars
Factors	37650 Dollars	0.94701	--- FY00 Max Earned Value Factor					

**Line Item 5 - Actinide Lab Studies and Wetlands Evaluation**

**BOE**

Line Item No. 5, Actinide Lab Studies and Wetlands Evaluations  
The cost estimate is based on technical estimates that are reviewed for reasonableness and consistency by the Estimator (C.Dayton), estimator's expertise, and vendor quotes.

Technical Estimate from RMRS based on the charges associated with the sampling in January 2000 (including Vendor Quotes). Estimator (C.Dayton) considers the technical estimate reasonable considering the actual costs incurred for previous AME soil sampling activities. Actual costs documented through Joshua, P&I BEST for WAD 1, WBS 1.1.03.06.01.08 in FY99 and FY00.  
Subcontractor Names - RMRS, LATA, SSOC, CASI, and RTG  
Vendor - subcontracts in place for CASI and RTG through KH RISS  
Quote Received by - C. Dayton (CTR) and L. Gregory-Frost

WBS No: 1HAD0201  
Activity ID: 1HXXX21P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Date Received - e-mail from Mark Wood and Mark Gohr (e-mail dated March 2, 2000)  
Item being quoted - Soil sampling near 528 pit OPWL release, 779 D&D soil sample, and two other samples (locations to be determined) for Pu valence analyses to be used for Actinide Migration modeling. This estimate includes the costs for the January 2000 OPWL sample, the 779 D&D soil sample, the May 2000 OPWL sampling and two proposed samples in FY01. Detailed breakdown of cost estimate located in Actinide Migration Evaluation project management files.  
Other Info - work will continue through 2001  
Availability - no issues.

Technical Estimate from RMRS based on the charges associated with historical groundwater sampling at RFETS (including Vendor Quotes.) Copies of e-mails regarding cost estimates in Actinide Migration project management files (C. Dayton, T130C)  
Subcontractor Names - RMRS, CASI and RTG  
Vendor - subcontracts in place for CASI and RTG through KH RISS  
Quote Received by - C. Dayton (CTR) and L. Gregory-Frost  
Date Received - e-mail from and telephone conversations with Rob Smith, RMRS (e-mails dated March 7, and May 1, 2000, telephone conversation on April 10, 2000)  
Item being quoted - Groundwater sampling of Pu aseptic wells and their twin well. Collection, preparation, and shipment of bailed unfiltered samples, pumped unfiltered, and pumped filtered samples. Estimated cost \$35,869  
Other Info - work will be completed in FY00  
Availability - no issues.

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01). Cost estimate based on a comparison with similar AME studies such as Phase Speciation and Ultrafiltration Analyses of Surface Water, Uranium Geochemical Modeling, Erosion and Sediment Transport Analysis, and other AME studies.  
Experience Item Desc - Vadose Zone Analysis to support Actinide Migration Evaluation conceptual model development, Pathway Analysis, Erosion and Sediment Transport Analysis, Performance Assessment, remedial action alternatives analysis, Comprehensive Risk Assessment, and final Corrective Action Decision/Record of Decision.  
Breakdown of Cost Data:  
Item - subcontractor cost to support analysis  
Units - dollars, labor  
Unit Cost - estimate \$100,000 in Subcontractor costs  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - None

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01). Cost estimate based on a comparison with similar AME studies such as Phase Speciation and Ultrafiltration Analyses of Surface Water, Uranium Geochemical Modeling, Erosion and Sediment Transport Analysis, and other AME studies.  
Experience Item Desc - Uranium Transport Modeling to support Actinide Migration Evaluation conceptual model development, Pathway Analysis, Erosion and Sediment Transport Analysis, Performance Assessment, remedial action alternatives analysis, Comprehensive Risk Assessment, and final Corrective Action Decision/Record of Decision.  
Breakdown of Cost Data:  
Item - subcontractor cost to support modeling  
Units - dollars, labor  
Unit Cost - \$102,300 in Subcontractor costs  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - None

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01). Cost estimate based on a comparison with similar sampling and analysis requirements.  
Experience Item Desc - Multi-media sampling to support Actinide Migration Evaluation conceptual model development, Pathway Analysis, Erosion and Sediment Transport Analysis, Performance Assessment, remedial action alternatives analysis, Comprehensive Risk Assessment, and final Corrective Action Decision/Record of Decision; and to answer questions that arise regarding Actinide Migration. Cost estimate for Pu, Am, U analyses, for onsite subcontracted services for IH and Rad Engineering; RCT labor hours, RMRS surface sampler labor hours.  
Breakdown of Cost Data:  
Item - subcontractor unit costs, subcontractor labor hours, direct labor hours  
Units - subcontractor dollars and direct labor hours  
Unit Cost - \$281,000 for Pu, Am, U analyses, \$5000 for onsite subcontracted services for IH and Rad Eng for sample collection, 600 hours RCT time (T050, KJ10H), 500 hours of RMRS surface water sampler (S020 R100S) (detailed breakdown of costs included in detailed spreadsheets in Actinide Migration Evaluation project manager's files (C. Dayton, T130C))  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustments made for this estimate

WBS No: 1HAD0201  
Activity ID: 1HXXX21P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Project manager and Wadlet manager for previous AME studies (WAD 1, WBS 1.1.03.06.01.08 and WAD 1, 1.1.03.07.01). Cost estimate based on a comparison with similar AME studies such as Phase Speciation and Ultrafiltration Analyses of Surface Water, Uranium Geochemical Modeling, Erosion and Sediment Transport Analysis, and other AME studies.

Experience Item Desc - Wetlands feasibility studies and studies to support the design and implementation of caps, wetlands and associated environmental sampling. The results of these studies will provide input into the Pathway Analysis, Erosion and Sediment Transport Analysis, Performance Assessment, remedial action alternatives analysis, Comprehensive Risk Assessment, and final Corrective Action Decision/Record of Decision.

**Breakdown of Cost Data:**

Item - subcontractor labor hours

Units - dollars

Unit Cost - \$1,125,000 in Subcontractor costs

Unit Cost Adjustment factor - none

Revised Unit Cost - NA

Basis for adjustment - no adjustment made for this estimate

Vendor Name - LANL, Murrell and Keogh

Vendor Quote - current IWO with LANL (M47RF00040/BNR EW05K1010)

Quote Received by - C. Dayton (CTR) for \$70500

Date Received - Subcontract awarded on October 1, 1999

Item being quoted - Pu valence analysis for soils

Other Info - work will continue through 2001

Availability - LANL will be available as needed to complete the IWO scope

Vendor Name - Texas A&M, Dr. Peter Santschi

Vendor Quote - current negotiated KH Subcontract (KH900674)

Quote Received by - C. Dayton (CTR)

Date Received - Subcontract awarded in December, 1999

Item being quoted - Phase Speciation and Ultrafiltration Analyses in support of the Actinide Migration Evaluation

Other Info - none

Availability - TAMU will be available as needed to complete the contract scope

Vendor Name - Rocky Mountain Compliance Consultants Incorporated (RMC Consultants, Inc)

Vendor Quote - current negotiated KH Subcontract (KH90669MB)

Quote Received by - C. Dayton (CTR)

Date Received - Subcontract awarded in September 24, 1999

Item being quoted - Quality Assurance and Geochemistry Support to the Actinide Migration Evaluation

Other Info - the contracted scope will continue through 2005

Availability - RMC Consultants, Inc. will be available as needed to complete the contract scope. If RMC is not available, another subcontractor will be contracted to complete the contracted scope.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Max Frontload	227.28	Hours
Factors	240	M Wood Hours	0.94701 --- FY00 Max Earned Value Factor					
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	R100S	RMRS Salaried	Max Frontload	30.30	Hours
Factors	32	Rad Eng Hours	0.94701 --- FY00 Max Earned Value Factor					
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	K312S	Construction	Max Frontload	60.61	Hours
Factors	64	Const Mat Hours	0.94701 --- FY00 Max Earned Value Factor					
750	STRAIGHT TIME BASE	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Max Frontload	3.79	Hours
Factors	4	Admin Hours	0.94701 --- FY00 Max Earned Value Factor					
750	STRAIGHT TIME BASE	L030	UTILITY WORKER	KJ10H	Support Proj Steelworkers	Max Frontload	75.76	Hours
Factors	80	SOEs Hours	0.94701 --- FY00 Max Earned Value Factor					
750	STRAIGHT TIME BASE	M010	FOREMEN / TEAM LEADS / GROUP	R100S	RMRS Salaried	Max Frontload	18.94	Hours
Factors	20	Rad Ops Hours	0.94701 --- FY00 Max Earned Value Factor					
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	R100S	RMRS Salaried	Max Frontload	77.66	Hours
Factors	82	IH/Ind Safety Hours	0.94701 --- FY00 Max Earned Value Factor					
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Max Frontload	405.32	Hours
Factors	428	Env Sci Hours	0.94701 --- FY00 Max Earned Value Factor					
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KJ10H	Support Proj Steelworkers	Max Frontload	568.21	Hours
Factors	600	RCT Hours	0.94701 --- FY00 Max Earned Value Factor					

WBS No: 1HAD0201  
Activity ID: 1HXXX21P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \* Starts In FY \*

750	STRAIGHT TIME BASE	T100	D&D CONSTRUCTION TRADES (incl.	K777C	Construction	Max Frontload	13.26	Hours
Factors	14	Excavation Specialist Hours	0.94701	---	FY00 May Earned Value Factor			
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	216.563.30	Dollars
Factors	282623	RMC/DQO S/Cdollars	0.94701	---	FY00 May Earned Value Factor			
						0.80913	[SYS 061500]	.80704 - System
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Triangular	192.331.80	Dollars
Factors	251000	Analytical (Pu.Am. U) dollars	0.94701	---	FY00 May Earned Value Factor			
						0.80913	[SYS 061500]	.80704 - System
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Alternate Linear	3.065.05	Dollars
Factors	4000	Rad Eng/IH Dollars	0.94701	---	FY00 May Earned Value Factor			
						0.80913	[SYS 061500]	.80704 - System
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	2.582.30	Dollars
Factors	3370	Analytical dollars	0.94701	---	FY00 May Earned Value Factor			
						0.80913	[SYS 061500]	.80704 - System
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	107.276.70	Dollars
Factors	140000	LANL IWO/Pu Valence Analysis	0.94701	---	FY00 May Earned Value Factor			
						0.80913	[SYS 061500]	.80704 - System
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	78.388.63	Dollars
Factors	102300	Uranium transport modeling S/C	0.94701	---	FY00 May Earned Value Factor			
						0.80913	[SYS 061500]	.80704 - System
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	SSOC Type 1	91.951.47	Dollars
Factors	120000	Texas A&M S/C dollars	0.94701	---	FY00 May Earned Value Factor			
						0.80913	[SYS 061500]	.80704 - System
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	RMRS Type 2	551.708.80	Dollars
Factors	720000	Wetlands S/C dollars	0.94701	---	FY00 May Earned Value Factor			
						0.80913	[SYS 061500]	.80704 - System
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	RMRS Type 2	352.480.60	Dollars
Factors	460000	Vadose Zone S/C dollars	0.94701	---	FY00 May Earned Value Factor			
						0.80913	[SYS 061500]	.80704 - System
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Max Frontload	3.371.55	Dollars
Factors	4400	Geoprobe S/C Dollars	0.94701	---	FY00 May Earned Value Factor			
						0.80913	[SYS 061500]	.80704 - System
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Max Frontload	2.835.17	Dollars
Factors	3700	Rad Screen/sample shipment Dollars	0.94701	---	FY00 May Earned Value Factor			
						0.80913	[SYS 061500]	.80704 - System
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	Max Frontload	3.065.05	Dollars
Factors	4000	Sampler S/C Dollars	0.94701	---	FY00 May Earned Value Factor			
						0.80913	[SYS 061500]	.80704 - System
A5H	SUBCONTRACTED SRVS	0000	NONE	K265S	ER Programs	SSOC Type 1	27.485.06	Dollars
Factors	35869	CASI/RTG Aseptic Well Sampling	0.94701	---	FY00 May Earned Value Factor			
						0.80913	[SYS 061500]	.80704 - System
A5H	SUBCONTRACTED SRVS	0000	NONE	KB10H	707 Complex Steelworkers	Max Frontload	2.329.44	Dollars
Factors	3040	Maint Planning S/C Dollars	0.94701	---	FY00 May Earned Value Factor			
						0.80913	[SYS 061500]	.80704 - System

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	397.346.30	Dollars
Factors	397346	Dollars						
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	166.235.30	Dollars
Factors	166235	Dollars						

WBS No: 1HAD0301 Title: RFCA Implementation & Oversight  
Activity ID: 1HAD3110P2 Description: RFCA Implementation & Oversight

Cost Risk 2 Schedule Risk 4

WBS No: 1HAD0301  
Activity ID: 1HAD3110P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	RFCA Implementation and Oversight	1.00	each	EE	3.637	3.637	127.148	542.921	0	670.069	46.888	716.958
2	RFCA Annual Review	1.00	each	EE	829	829	29.638	568	0	30.206	10.929	41.135
3	Annual IGD Review	1.00	each	EE	833	833	30.352	29.277	0	59.629	11.193	70.822
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	187.903	187.903	0	187.903
Total for Activity 1HAD3110P2:						5.299	187.138	572.766	187.903	947.808	69.010	1.016.818

**Line Item 1 - RFCA Implementation and Oversight**

**BOE**

Line Item No. 1: RFCA Implementation, Guidance, and Training  
Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Managed budget for RFCA Implementation activity for FY98, FY99 and FY00. Professional experience related to regulatory interface and interagency agreements implementation at RFETS. Detailed spreadsheets located in the RFCA Implementation budget project management files (C.Dayton, T130C)  
Basis for estimator's cost projections:  
(1) Actual costs accessible through Joshua, the P&I budget reporting system for FY98, FY99, and FY00 and project management files for WAD 24, WBS 1.1.08.03.05 document the costs to complete similar activities. WBS 1.1.08.03.05 activities are included in the following WBS activities in the FY00-FY06 contract award rebaseline Program/Project Management, RFCA Implementation, Water Strategy, and Rad Soil Action Levels (1HAD111000, 1HAD1110P2, 1HAD311000, 1HAD3110P2, 1HAD312000, 1HAD3120P2, 1HAD313000, 1HAD3130P2.  
(2) Vendor Quote for FY00. Task order on KH subcontract negotiated for FY00 only. Estimator experience used to project subcontract activities and costs for future years.  
  
Item Description - Implementation, integration, coordination, guidance and training of Rocky Flats Cleanup Agreement activities. Assist Closure Projects (D&D and ER) with regulatory issues, site closure strategy and site CAD/ROD. Assist communications department with stakeholder interactions, when appropriate. Manage site-wide initiatives like the risk assessment, future land use, and actinide migration studies. Support preparation of RFCA-mandated documents. Assist with budget planning, milestone/target activity negotiations and rulemaking/negotiations.  
  
Breakdown of Cost Data:  
Item - direct labor hours, negotiated subcontract value, and ODC dollars from past project actuals  
Units - labor hours by discipline, subcontract dollars, and ODC dollars by procurement line item.  
Unit Cost - at current labor rate, and estimated cost of procuring ODCs and travel the following hours/dollars were estimated: 1343 environmental engineer direct labor hours; 954 health physicist direct labor hours; 100 geologist direct labor hours; 1444 other scientist direct labor hours; \$27140 cost of travel with personal vehicles and procured travel; \$24400 procured ODCs  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for current estimate  
  
Vendor Name - E2 Consulting Engineers, Inc.  
Vendor Quote - negotiated KH Subcontract (KH900639ME Task 4)  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Technical services to support RFCA Implementation, Guidance, and Training  
Other Info - none  
Availability - Subcontractor will continue to be available at RFETS through the out years  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		E130	OTHER ENGINEERS	R100S	RMRS Salaried	Linear	1,271.84	Hours
Factors	1343	Bob Fiehweq hours	0.94701 --- FY00 May Earned Value Factor						
750	STRAIGHT TIME BASE		P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	903.45	Hours
Factors	954	Rick Roberts hours	0.94701 --- FY00 May Earned Value Factor						
750	STRAIGHT TIME BASE		S030	GEOLOGISTS	R100S	RMRS Salaried	Linear	94.70	Hours
Factors	100	Rob Smith hours	0.94701 --- FY00 May Earned Value Factor						
750	STRAIGHT TIME BASE		S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	1,367.49	Hours
Factors	1444	Win Chromec hours	0.94701 --- FY00 May Earned Value Factor						
A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	494,111.90	Dollars
Factors	644834	E2 S/C hours	0.94701 --- FY00 May Earned Value Factor						
							0.80913 - [SYS 061500] .80704 - System		
A5M	TRAVEL/TRAIN/RELOCAT		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	25,701.98	Dollars
Factors	27140	dollars	0.94701 --- FY00 May Earned Value Factor						

WBS No: 1HAD0301  
Activity ID: 1HAD3110P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1HAD  
\*

Starts In FY \*

A5R	MISC EXPENSES	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	23,107.16	Dollars
Factors	24400	dollars	0.94701	--- FY00 May Earned Value Factor				

**Line Item 2 - RFCA Annual Review**

**BOE**

Line Item No. 2: RFCA Annual Review  
Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Managed budget for RFCA Implementation activity for FY98, FY99 and FY00. Professional experience related to regulatory interface and interagency agreements implementation at RFETS. Detailed spreadsheets located in the RFCA Implementation budget project management files (C.Dayton, T130C)  
Basis for estimator's cost projections:  
(1) Actual costs accessible through Joshua, the P&I budget reporting system for FY98, FY99, and FY00 and project management files for WAD 24, WBS 1.1.08.03.05 document the costs to complete similar activities. WBS 1.1.08.03.05 activities are included in the following WBS activities in the FY00-FY06 contract award rebaseline Program/Project Management, RFCA Implementation, Water Strategy, and Rad Soil Action Levels (1HAD111000, 1HAD1110P2, 1HAD311000, 1HAD3110P2, 1HAD312000, 1HAD3120P2, 1HAD313000, 1HAD3130P2.  
(2) Vendor Quote for FY00. Task order on KH subcontract negotiated for FY00 only. Estimator experience used to project subcontract activities and costs for future years.  
Cost based on estimator past experience with this program under previous WAD 024

**Resources**

Cost Element			Skill		Department		Curve	Quantity	Units	
750	STRAIGHT TIME BASE		E130	OTHER ENGINEERS		R100S	RMRS Salaried	Linear	227.28	Hours
Factors	240	Bob Fiehwea hours	0.94701 --- FY00 May Earned Value Factor							
750	STRAIGHT TIME BASE		P080	HEALTH PHYSICISTS		R100S	RMRS Salaried	Linear	127.85	Hours
Factors	135	Rick Roberts hours	0.94701 --- FY00 May Earned Value Factor							
750	STRAIGHT TIME BASE		S090	OTHER SCIENTISTS		R100S	RMRS Salaried	Linear	473.51	Hours
Factors	500	Win Chromec hours	0.94701 --- FY00 May Earned Value Factor							
A5M	TRAVEL/TRAIN/RELOCAT		0000	NONE		K109S	Env Sys. Stewardship & Compliance	Linear	568.21	Dollars
Factors	600	dollars	0.94701 --- FY00 May Earned Value Factor							

**Line Item 3 - Annual IGD Review**

**BOE**

Line Item No. 3: RFCA annual IGD review  
Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Managed budget for RFCA Implementation activity for FY98, FY99 and FY00. Professional experience related to regulatory interface and interagency agreements implementation at RFETS. Detailed spreadsheets located in the RFCA Implementation budget project management files (C.Dayton, T130C)  
Basis for estimator's cost projections:  
(1) Actual costs accessible through Joshua, the P&I budget reporting system for FY98, FY99, and FY00 and project management files for WAD 24, WBS 1.1.08.03.05 document the costs to complete similar activities. WBS 1.1.08.03.05 activities are included in the following WBS activities in the FY00-FY06 contract award rebaseline Program/Project Management, RFCA Implementation, Water Strategy, and Rad Soil Action Levels (1HAD111000, 1HAD1110P2, 1HAD311000, 1HAD3110P2, 1HAD312000, 1HAD3120P2, 1HAD313000, 1HAD3130P2.  
(2) Vendor Quote for FY00. Task order on KH subcontract negotiated for FY00 only. Estimator experience used to project subcontract activities and costs for future years.  
Cost based on estimator past experience with this program under previous WAD 024  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		E130	OTHER ENGINEERS		R100S	RMRS Salaried	Linear	227.28Hours
Factors	240	Bob Fiehwea hours	0.94701 --- FY00 May Earned Value Factor						
750	STRAIGHT TIME BASE		S090	OTHER SCIENTISTS		R100S	RMRS Salaried	Linear	606.09Hours
Factors	640	Win Chromec hours	0.94701 --- FY00 May Earned Value Factor						
A5H	SUBCONTRACTED SRVS		0000	NONE		K109S	Env Svs. Stewardship & Compliance	Linear	26.436.05Dollars
Factors	34500	dollars	0.94701 --- FY00 May Earned Value Factor						
0.80913 ISYS 0615001.80704 - System									
A5R	MISC EXPENSES		0000	NONE		K109S	Env Svs. Stewardship & Compliance	Linear	2.841.04Dollars
Factors	3000	dollars	0.94701 --- FY00 May Earned Value Factor						

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element			Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE		ZDEPT	No Department	Linear	122.645.40	Dollars
Factors 122645 Dollars									



WBS No: 1HAD0301  
Activity ID: 1HAD3110P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	65,257.76	Dollars
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Factors 65257.8 Dollars

Activity ID: 1HAD3120P2 Description: Water Strategy

Cost Risk 3 Schedule Risk 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Water Strategy	1.00	each	EE	1.501	1.501	51.341	126.397	0	177.738	21.108	198.846
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	29.398	29.398	0	29.398
Total for Activity 1HAD3120P2:						1.501	51.341	126.397	29.398	207.136	21.108	228.244

**Line Item 1 - Water Strategy**

**BOE**

Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Managed budget for RFCA Implementation and Actinide Migration Evaluation activities for FY98, FY99 and FY00. Professional experience related to regulatory interface and interagency agreements implementation at RFETS. Detailed spreadsheets located in the RFCA Implementation budget project management files (C.Dayton, T130C)

Item Description - Prepare RFCA Water Strategy (RFCA Standard) in FY00 for presentation to DOE, regulators, and Water Quality Control Commissioners. Provide technical and regulatory strategy support to the integration of the RFCA Water Strategy with the Sitewide Water Management Strategy in FY02. Provide technical and regulatory support services in FY03 for development and presentation of proposed water standards at the Water Quality Control Commission hearings.

Breakdown of Cost Data:  
Item - direct labor hours, negotiated subcontract value, and ODC dollars from past project actuals  
Units - labor hours by discipline, subcontract dollars, and ODC dollars by procurement line item.  
Unit Cost - at current labor rate, and estimated cost of procuring ODCs and travel the following hours/dollars were estimated: 1632 environmental engineer direct labor hours; \$50000 Regulatory Strategy subcontractor dollars in FY02; \$39871 Wright Water Engineers subcontractor dollars for FY00; \$30000 Wright Water Engineers subcontractor dollars for FY02; \$20000 Wright Water Engineers subcontractor dollars for FY03; \$30000 for GIS subcontractor dollars to produce maps and presentation materials for Water Quality Control Commission hearings and meetings.  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for current estimate

Vendor Name - Wright Water Engineers, Inc.  
Vendor Quote - negotiated KH Subcontract (KH90668MB); anticipate contract modification to include FY02 and FY03 work scope.  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Technical services to support RFCA Water Strategy and RFCA Standard  
Other Info - none  
Availability - Subcontractor will continue to be available at RFETS through the out years

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element	Skill	Department	Curve	Quantity	Units
750 STRAIGHT TIME BASE	E130 OTHER ENGINEERS	R100S RMRS Salaried	Front Loaded	1.500.77	Hours
Factors 1632 Bob Fiehwea hours	0.91959 --- FY00 May Earned Value Factor				
A5H SUBCONTRACTED SRVS	0000 NONE	K109S Env Sys. Stewardship & Compliance	Trianglr Incr	22.322.21	Dollars
Factors 30000 GIS S/C dollars	0.91959 --- FY00 May Earned Value Factor				
0.80913 [SYS 061500] .80704 - Svstem					
A5H SUBCONTRACTED SRVS	0000 NONE	K109S Env Sys. Stewardship & Compliance	Max Backload	37.203.68	Dollars
Factors 50000 Rea Strategy Dollars	0.91959 --- FY00 May Earned Value Factor				
0.80913 [SYS 061500] .80704 - Svstem					
A5H SUBCONTRACTED SRVS	0000 NONE	K109S Env Sys. Stewardship & Compliance	Max Backload	22.322.21	Dollars
Factors 30000 WWE 02 dollars	0.91959 --- FY00 May Earned Value Factor				
0.80913 [SYS 061500] .80704 - Svstem					
A5H SUBCONTRACTED SRVS	0000 NONE	K109S Env Sys. Stewardship & Compliance	Max Backload	14.881.47	Dollars
Factors 20000 WWE 03 dollars	0.91959 --- FY00 May Earned Value Factor				
0.80913 [SYS 061500] .80704 - Svstem					
A5H SUBCONTRACTED SRVS	0000 NONE	K109S Env Sys. Stewardship & Compliance	SSOC Type 1	29.666.96	Dollars
Factors 39871 WWE 00 dollars	0.91959 --- FY00 May Earned Value Factor				
0.80913 [SYS 061500] .80704 - System					



WBS No: 1HAD0301  
Activity ID: 1HAD3120P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

**Line Item SYS - Contingency And Escalation**

**BOE**

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	19.284.45 Dollars
Factors		19284.5 Dollars					
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	10.113.40 Dollars
Factors		10113.4 Dollars					

Activity ID: 1HAD3130P2 Description: Rad Soil Action Levels (RSALs)

Cost Risk 2 Schedule Risk 3

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Rad Soil Action Levels	1.00	each	EE	2.298	2.298	75.927	167.695	0	243.622	34.587	278.209
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	16.989	16.989	0	16.989
Total for Activity 1HAD3130P2:						2.298	75.927	167.695	16.989	260.611	34.587	295.198

**Line Item 1 - Rad Soil Action Levels**

**BOE**

Basis of Estimate:  
Line Item 1: Radiological Soil Action Levels (RSALs)  
Provide risk and dose assessment (strategy and data evaluation) technical support for the RFCA Soil Action Levels and Preliminary Programmatic Remediation Goals (PPRGs) for radionuclides for soils and surface water. Provide technical, and strategic project management support to KH for development and negotiation of RSALs. Represent KH during interactions with the Stakeholders and DOE. Implement the actions agreed upon by the RFCA Parties and/or DOE regarding the evaluation of RSALs and the RAC report.

The cost estimate for this activity is based on estimator experience at RFETS with development of PPRGs, RFCA Action Levels and Standards Framework for Surface Water, Groundwater, and Soils (ALF), FY98 and FY99 RSALS working group negotiations with the regulators, and preparations for and responses to Stakeholder meetings.

The RMRS direct labor hours portion of this activity was previously included in WAD 24, WBS 1.1.08.03.05.

Estimators Experience - C. Dayton = 13 years of experience in project management, hydrogeology, and environmental remediation. Project manager and Wadlet manager for the Site Water Balance (WAD 24, WBS 1.1.08.03.05) in FY98, FY99, and FY00. Input received from D. Shelton, RFCA Project Coordinator, and L. Brooks, RFCA Implementation Management Integrator, regarding the labor hours required and the experience and skills needed to complete the RSALs development and negotiation task. L. Brooks currently is the KH lead for the RSAL working group.

Experience Item Desc - Provide technical, and strategic project management support to KH for development and negotiation of RSALs.

Item - direct labor hours, subcontracted labor hours, travel dollars and ODC dollars based on previous project actuals

Units - labor hours by discipline; subcontractor dollars; travel and ODC dollars

Unit Cost - at current labor rate for health physicists: 2750 hours x \$32.66 = \$89815;  
- at current RFETS subcontractor rates: \$227,000 subcontractor dollars for a senior project manager with CERCLA, radiological risk and dose assessment, and stakeholder interaction experience;  
- GIS subcontractor dollars based on previous project actuals: \$20000;  
- Travel and ODC dollars: \$420 and \$400  
(detailed spreadsheet describing cost estimate located in budget/project manager's files (C. Dayton, T130C))

Revised Unit Cost - none  
Basis for adjustment - no adjustment made at this time

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Back Loaded	2.298.03	Hours
Factors	2750	Rick Roberts hours	0.83565 --- FY00 May Earned Value Factor						
A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Back Loaded	153.486.40	Dollars
Factors	227000	CERCLA Rad dollars	0.83565 --- FY00 May Earned Value Factor						
							0.80913 [SYS 061500]	.80704 - System	
A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Backload	13.523.03	Dollars
Factors	20000	GIS dollars	0.83565 --- FY00 May Earned Value Factor						
							0.80913 [SYS 061500]	.80704 - System	
A5M	TRAVEL/TRAIN/RELOCAT		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Triandlr Incr	350.97	Dollars
Factors	420	Travel dollars	0.83565 --- FY00 May Earned Value Factor						
A5R	MISC EXPENSES		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	334.26	Dollars
Factors	400	ODC dollars	0.83565 --- FY00 May Earned Value Factor						

WBS No: 1HAD0301  
Activity ID: 1HAD3130P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

**Line Item SYS - Contingency And Escalation**

**BOE**

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	10.626.89 Dollars
Factors		10626.9 Dollars					
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	6.362.56 Dollars
Factors		6362.56 Dollars					

Activity ID: 1HXXX311P2 Description: RFCA Implementation & Oversight - FY06

Cost Risk 2 Schedule Risk 4

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	RFCA Implementation and Oversight	0.17	each	EE	3.637	631	22.060	94.198	0	116.258	11.799	128.057
2	RFCA Annual Review	0.17	each	EE	829	144	5.142	99	0	5.241	2.750	7.991
3	Annual IGD Review	0.17	each	EE	833	145	5.266	5.080	0	10.346	2.817	13.162
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	105.083	105.083	0	105.083
Total for Activity 1HXXX311P2:						919	32.469	99.376	105.083	236.928	17.366	254.294

**Line Item 1 - RFCA Implementation and Oversight**

**BOE**

Line Item No. 1: RFCA Implementation, Guidance, and Training  
Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Managed budget for RFCA Implementation activity for FY98, FY99 and FY00. Professional experience related to regulatory interface and interagency agreements implementation at RFETS. Detailed spreadsheets located in the RFETS RFCA Implementation budget project management files (C.Dayton, T130C)  
Basis for estimator's cost projections:  
(1) Actual costs accessible through Joshua, the P&I budget reporting system for FY98, FY99, and FY00 and project management files for WAD 24, WBS 1.1.08.03.05 document the costs to complete similar activities. WBS 1.1.08.03.05 activities are included in the following WBS activities in the FY00-FY06 contract award rebaseline Program/Project Management, RFCA Implementation, Water Strategy, and Rad Soil Action Levels (1HAD111000, 1HAD1110P2, 1HAD3110P2, 1HAD312000, 1HAD3120P2, 1HAD313000, 1HAD3130P2).  
(2) Vendor Quote for FY00. Task order on KH subcontract negotiated for FY00 only. Estimator experience used to project subcontract activities and costs for future years.  
  
Item Description - Implementation, integration, coordination, guidance and training of Rocky Flats Cleanup Agreement activities. Assist Closure Projects (D&D and ER) with regulatory issues, site closure strategy and site CAD/ROD. Assist communications department with stakeholder interactions, when appropriate. Manage site-wide initiatives like the risk assessment, future land use, and actinide migration studies. Support preparation of RFCA-mandated documents. Assist with budget planning, milestone/target activity negotiations and rulemaking/negotiations.  
  
Breakdown of Cost Data:  
Item - direct labor hours, negotiated subcontract value, and ODC dollars from past project actuals  
Units - labor hours by discipline, subcontract dollars, and ODC dollars by procurement line item.  
Unit Cost - at current labor rate, and estimated cost of procuring ODCs and travel the following hours/dollars were estimated: 1343 environmental engineer direct labor hours; 954 health physicist direct labor hours; 100 geologist direct labor hours; 1444 other scientist direct labor hours; \$27140 cost of travel with personal vehicles and procured travel; \$24400 procured ODCs  
Unit Cost Adjustment factor - none  
Revised Unit Cost - NA  
Basis for adjustment - no adjustment made for current estimate  
  
Vendor Name - E2 Consulting Engineers, Inc.  
Vendor Quote - negotiated KH Subcontract (KH900639ME Task 4)  
Quote Received by - C. Dayton (CTR)  
Date Received - Subcontract awarded on October 1, 1999  
Item being quoted - Technical services to support RFCA Implementation, Guidance, and Training  
Other Info - none  
Availability - Subcontractor will continue to be available at RFETS through the out years  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E130	OTHER ENGINEERS	R100S	RMRS Salaried	Linear	1,271.84 Hours
Factors		1343 Bob Fiehwea hours 0.94701 --- FY00 Max Earned Value Factor					
750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	903.45 Hours
Factors		954 Rick Roberts hours 0.94701 --- FY00 Max Earned Value Factor					

WBS No: 1HAD0301  
Activity ID: 1HXXX311P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

750	STRAIGHT TIME BASE	S030	GEOLOGISTS	R100S	RMRS Salaried	Linear	94.70	Hours
Factors	100	Rob Smith hours	0.94701	--- FY00 Mav Earned Value Factor				
750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	1,367.49	Hours
Factors	1444	Win Chromec hours	0.94701	--- FY00 Mav Earned Value Factor				
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	494,111.90	Dollars
Factors	644834	E2 S/C hours	0.94701	--- FY00 Mav Earned Value Factor				
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	25,701.98	Dollars
Factors	27140	dollars	0.94701	--- FY00 Mav Earned Value Factor				
A5R	MISC EXPENSES	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	23,107.16	Dollars
Factors	24400	dollars	0.94701	--- FY00 Mav Earned Value Factor				

**Line Item 2 - RFCA Annual Review**

**BOE**

Line Item No. 2: RFCA Annual Review  
Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Managed budget for RFCA Implementation activity for FY98, FY99 and FY00. Professional experience related to regulatory interface and interagency agreements implementation at RFETS. Detailed spreadsheets located in the RFCA Implementation budget project management files (C.Dayton, T130C)  
Basis for estimator's cost projections:  
(1) Actual costs accessible through Joshua, the P&I budget reporting system for FY98, FY99, and FY00 and project management files for WAD 24, WBS 1.1.08.03.05 document the costs to complete similar activities. WBS 1.1.08.03.05 activities are included in the following WBS activities in the FY00-FY06 contract award rebaseline Program/Project Management, RFCA Implementation, Water Strategy, and Rad Soil Action Levels (1HAD111000, 1HAD1110P2, 1HAD311000, 1HAD3110P2, 1HAD312000, 1HAD3120P2, 1HAD313000, 1HAD3130P2.  
(2) Vendor Quote for FY00. Task order on KH subcontract negotiated for FY00 only. Estimator experience used to project subcontract activities and costs for future years.  
Cost based on estimator past experience with this program under previous WAD 024

**Resources**

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		E130	OTHER ENGINEERS	R100S	RMRS Salaried	Linear	227.28	Hours
Factors	240	Bob Fiehwea hours	0.94701 --- FY00 Mav Earned Value Factor						
750	STRAIGHT TIME BASE		P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Linear	127.85	Hours
Factors	135	Rick Roberts hours	0.94701 --- FY00 Mav Earned Value Factor						
750	STRAIGHT TIME BASE		S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	473.51	Hours
Factors	500	Win Chromec hours	0.94701 --- FY00 Mav Earned Value Factor						
A5M	TRAVEL/TRAIN/RELOCAT		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	568.21	Dollars
Factors	600	dollars	0.94701 --- FY00 Mav Earned Value Factor						

**Line Item 3 - Annual IGD Review**

**BOE**

Line Item No. 3: RFCA annual IGD review  
Estimators Experience - C. Dayton = 13 years of project management, hydrogeology and environmental remediation experience. Managed budget for RFCA Implementation activity for FY98, FY99 and FY00. Professional experience related to regulatory interface and interagency agreements implementation at RFETS. Detailed spreadsheets located in the RFCA Implementation budget project management files (C.Dayton, T130C)  
Basis for estimator's cost projections:  
(1) Actual costs accessible through Joshua, the P&I budget reporting system for FY98, FY99, and FY00 and project management files for WAD 24, WBS 1.1.08.03.05 document the costs to complete similar activities. WBS 1.1.08.03.05 activities are included in the following WBS activities in the FY00-FY06 contract award rebaseline Program/Project Management, RFCA Implementation, Water Strategy, and Rad Soil Action Levels (1HAD111000, 1HAD1110P2, 1HAD311000, 1HAD3110P2, 1HAD312000, 1HAD3120P2, 1HAD313000, 1HAD3130P2.  
(2) Vendor Quote for FY00. Task order on KH subcontract negotiated for FY00 only. Estimator experience used to project subcontract activities and costs for future years.  
Cost based on estimator past experience with this program under previous WAD 024  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		E130	OTHER ENGINEERS	R100S	RMRS Salaried	Linear	227.28	Hours
Factors	240	Bob Fiehwea hours	0.94701 --- FY00 Mav Earned Value Factor						
750	STRAIGHT TIME BASE		S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	606.09	Hours
Factors	640	Win Chromec hours	0.94701 --- FY00 Mav Earned Value Factor						

WBS No: 1HAD0301  
Activity ID: 1HXXX311P2

**Rockv Flats Closure Proiect**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1HAD  
\*

Starts In FY \*

A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	26.436.05	Dollars
Factors	34500	dollars	0.94701	--- FY00 May Earned Value Factor				

A5R	MISC EXPENSES	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	2.841.04	Dollars
Factors	3000	dollars	0.94701	--- FY00 May Earned Value Factor				

**Line Item SYS - Contingency And Escalation**

**BOE**

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	73.062.90	Dollars
	Factors 73062.9 Dollars								
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	32.020.38	Dollars
	Factors 32020.4 Dollars								

WBS No: 1HAD0401 Title: Closure Strategy

Activity ID: 1HAD4110P2 Description: Closure Strategy

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Closure Strategy	1.00	each	EE	5.082	5.082	411.439	0	0	411.439	151.725	563.164
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	126.097	126.097	0	126.097
Total for Activity 1HAD4110P2:						5.082	411.439	0	126.097	537.536	151.725	689.261

**Line Item 1 - Closure Strategy**

**BOE**

This WBS supports one 1/2 time FTE (VP of Environmental Systems and Stewardship) to support ER Strategy, DOE and other state and local government interface and integration. Issue resolution and public meetings are included.

Estimators Experience - VP of Environmental Systems and Stewardship (ESS). Estimator has direct experience in this field at Rocky Flats in current position for FY 98 thru present. Estimator has either directly supervised or has be party to activities supporting the Closure Strategy for Rocky Flats and the Environmental Systems and Stewardship management at site level. Previously an overhead position. Estimator has based this estimate on his (Dave Shelton) direct experience in this position from past years at Rocky Flats and the level of support it has required in the past.

Experience Item Desc - actual hours in support of Closure Strategy and ESS

Breakdown of Cost Data:

Item - direct labor

Units - hours (55244 hours for period 2/1/00 thru 12/15/05)

Unit Cost - applicable rate

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -none

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M050	COMPANY PRESIDENT AND VPs (G	K109S	Env Sys. Stewardship & Compliance	Linear	5.082.00	Hours
	Factors	77	hours per month (Shelton .5 FTE)	66	months				

**Line Item SYS - Contingency And Escalation**

**BOE**

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	82.412.16	Dollars
	Factors 82412.2 Dollars								
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	43.684.98	Dollars
	Factors 43685 Dollars								

Activity ID: 1HXXX411P2 Description: Closure Strategy - FY06

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Closure Strategy	0.17	each	EE	5.082	882	71.385	0	0	71.385	38.180	109.565
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	73.908	73.908	0	73.908
Total for Activity 1HXXX411P2:						882	71.385	0	73.908	145.293	38.180	183.473

**Line Item 1 - Closure Strategy**

**BOE**

This WBS supports one 1/2 time FTE (VP of Environmental Systems and Stewardship) to support ER Strategy, DOE and other state and local government interface

WBS No: 1HAD0401  
Activity ID: 1HXXX411P2

**Rocky Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

and integration. Issue resolution and public meetings are included.

Estimators Experience - VP of Environmental Systems and Stewardship (ESS). Estimator has direct experience in this field at Rocky Flats in current position for FY 98 thru present. Estimator has either directly supervised or has been party to activities supporting the Closure Strategy for Rocky Flats and the Environmental Systems and Stewardship management at site level. Previously an overhead position. Estimator has based this estimate on his (Dave Shelton) direct experience in this position from past years at Rocky Flats and the level of support it has required in the past.

Experience Item Desc - actual hours in support of Closure Strategy and ESS

Breakdown of Cost Data:

Item - direct labor

Units - hours (55244 hours for period 2/1/00 thru 12/15/05)

Unit Cost - applicable rate

Unit Cost Adjustment factor -

Revised Unit Cost -

Basis for adjustment -none

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	M050	COMPANY PRESIDENT AND VPs (G	K109S	Env Sys. Stewardship & Compliance	Linear	5.082.00
Factors	77	hours per month (Shelton .5 FTE)	66	months			

**Line Item SYS - Contingency And Escalation**

BOE

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	50.688.07
Factors	50688.1	Dollars					
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	23.219.48
Factors	23219.5	Dollars					

WBS No: 1HAD0501 Title: Monitoring  
Activity ID: 1HAD5110P2 Description: Ground Water Monitoring

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Well Installation/ Replacement	1.00	each	HC	5.633	5.633	158.436	280.023	0	438.459	58.426	496.884
2	Groundwater Monitoring	1.00	each	HC	12.114	12.114	319.193	2,639.050	0	2,958.242	117.708	3,075.950
3	Groundwater Analytical	1.00	each	HC	0	0	0	1,462.400	0	1,462.400	0	1,462.400
4	Landfill monitoring documentation & reports	1.00	each	HC	200	200	6,018	4,936	0	10,954	2,219	13,173
5	Landfill monitoring subcontract	1.00	each	HC	0	0	0	181,246	0	181,246	0	181,246
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	1,305.218	1,305.218	0	1,305.218
Total for Activity 1HAD5110P2:						17.947	483.646	4,567.654	1,305.218	6,356.518	178.353	6,534.871

**Line Item 1 - Well Installation/ Replacement**

BOE

Historical Data Source: Derived from FY97 WARP program activity in PCS -002A for September, 1997

Item Desc: The Well Abandonment and Replacement Program performs well maintenance activities for the groundwater monitoring program. Implementation of the WARP achieves the general objective of ensuring that groundwater monitoring wells and piezometers are viable. The WARP provides a means to eliminate non viable wells and selectively replace wells and piezometers where sample and water level readings are suspected of not being representative of subsurface conditions. Nonviable or obsolete wells are permanently abandoned in accordance with State regulation 2 CCR 402-2 to prevent potential contaminant migration along well bores. Well replacements are installed at critical monitoring locations which have been irreparable damaged or are found to be incorrectly located.

Breakdown of Historical Data:

Item:750 Direct Annual Labor

Units: lot Unit Cost: 752 Hours based on \$48/hr ave. rate R100S (Geologist)

Units: lot Unit Cost: 200 Hours based on \$33/hr ave. rate KH10H (RCT)

Item:A5H Annual Non-Labor

Units: lot Unit Cost: \$40,457 Dollars based on FY00 RTG Subcontract cost (Sr.Technician)

Units: lot Unit Cost: \$13,709 dollars based on FY00 cost for Geologist subcontractor

Item:A5C annual Non-Labor

Units: lot Unit Cost: \$3500 Dollars based on FY99 ave Waste Container costs

WBS No: 1HAD0501  
Activity ID: 1HAD5110P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \* Starts In FY \*

Unit Cost Adjustment factor: .79 Revised Unit Cost: NA  
Basis for adjustment:Reduced number of wells with respect to FY97 Warp Project.  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	S030	GEOLOGISTS	R100S	RMRS Salaried	Linear	4.449.36	Hours
Factors	752	Hours(Geologist)	5.9167	Annual Rate Factor				
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KH10H	EESH&Q Steelworkers	Linear	1.183.34	Hours
Factors	200	Hours(RCT)	5.9167	Annual Rate Factor				
A5C	SUPPLIES	0000	NONE	R100S	RMRS Salaried	Linear	20.708.45	Dollars
Factors	3500	Dollars(Field Supplies	5.9167	Annual Rate Factor				
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Back Loaded	193.684.00	Dollars
Factors	40457	Dollars(Drillers)	5.9167	Annual Rate Factor				
						0.80913	[SYS 061500] .80704 - Svstem	
A5H	SUBCONTRACTED SRVS	S030	GEOLOGISTS	R100S	RMRS Salaried	Back Loaded	65.630.53	Dollars
Factors	13709	Dollars(Geoloigst)	5.9167	Annual Rate Factor				
						0.80913	[SYS 061500] .80704 - System	

**Line Item 2 - Groundwater Monitoring**

**BOE**

The Groundwater Monitoring Network at Rocky Flats Plant (RFP) is currently comprised of ~150 wells which are sampled semiannually, and approximately 350 wells for which water levels are measured on monthly, quarterly and semi-annual timeframes. The monitoring program consists of water quality sample collection, well development, water level measurements, field parameter measurements, sample management and data management done on a quarterly basis. Additional tasks include the preparation of a quarterly well status report, SME responsibility for GT and GW series SOPs, and maintenance of the core log database and core repository and responsibility for the Well Control Procedure. At times, the scope may cover special sampling, well development and water level measurements, aquifer testing and special reporting.Item Desc:Cost is for 1.7 FTE for environmental scientists to implement the groundwater monitoring scope, .5 FTE for RCT support and subcontract costs for sampling, water levels, data entry, shipping and HSS duties.

Historical Data Source: WADLET 1103080401 actuals P&I Report dated 10/7/99 and Historic cost estimate from groundwater monitoring subcontractor.

Breakdown of Historical Data:  
Item:750 Direct Annual Labor  
Units: lot Unit Cost: 1296 Hours based on \$48/hr ave. rate R100S (Geologist)  
Units: lot Unit Cost: 718 Hours based on \$33/hr ave. rate KH10H (RCT)

Item:A5H Annual Non-Labor  
Units: lot Unit Cost: \$96,468 Dollars based on RMRS HQ cost, \$52.50/hr ave. rate (Field Supervisor)  
Units: lot Unit Cost: \$469,392 Dollars based on FY00 RTG Subcontract cost (Technicians)

Item:A5C annual Non-Labor  
Units: lot Unit Cost: \$13,102 Dollars based on FY99 ave hardware/software upgrade costs

Unit Cost Adjustment factor: 1.11 Revised Unit Cost: NA  
Basis for adjustment: Cost increase due to RCT suppport requirements  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	S030	GEOLOGISTS	R100S	RMRS Salaried	Linear	7.261.75	Hours
Factors	1296	Hours (Geoloigst)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor		
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KH10H	EESH&Q Steelworkers	Linear	4.852.37	Hours
Factors	866	Hours (RCT)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor		
A5C	SUPPLIES	0000	NONE	R100S	RMRS Salaried	Linear	73.413.16	Dollars
Factors	13102	Dollars	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor		
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Alternate Linear	2.128.275.00	Dollars
Factors	469430	Dollars(Techs)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor		
						0.80913	[SYS 061500] .80704 - System	



WBS No: 1HAD0501  
Activity ID: 1HAD5110P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1HAD  
\*

Starts In FY \*

A5H	SUBCONTRACTED SRVS	S030	GEOLOGISTS	R100S	RMRS Salaried	Back Loaded	437,361.20	Dollars
Factors	96468	Dollars (Field super.)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor		

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - Groundwater Analytical**

**BOE**

Groundwater Analytical Services Needs for the period of performance includes laboratory analyses for RFCA monitoring, the Industrial Area IM/IRA and the RFCA Groundwater Evaluations Scope. Offsite analytical services are required to measure a variety of sample parameters required by Site permits, agreements and DOE Orders. Analytical data are used for required permit and agreement reporting as well as for operational decision making purposes. Groundwater utilizes the Modular Lab for offsite sample shipment DOE screening purposes. All environmental samples are currently analyzed by offsite laboratories.

Historical Data Source: ASD Laboratory Average Cost sheet 8/3/98

Item Desc:Groundwater Analytical Services Needs for the period of performance includes laboratory analyses for RFCA monitoring, the Industrial Area IM/IRA and the RFCA Groundwater Evaluations Scope. Validation of analytical data at the Site 25% requirement are also included.

Breakdown of Historical Data:  
Item:A5H Annual Non-Labor

Units: lot Unit Cost: \$323,706 subcontract lab and validation services

Unit Cost Adjustment factor: 1.4 Revised Unit Cost: NA  
Basis for adjustment: Increased monitoring scope and compressed closure schedule

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element	Skill	Department	Curve	Quantity	Units
A5H SUBCONTRACTED SRVS	0000 NONE	K267S Analytical Laboratory Services	Back Loaded	1,462,400.00	Dollars
Factors	322559 Dollars	5.9167 Annual Rate Factor	0.94701 --- FY00 May Earned Value Factor		

0.80913 [SYS 061500] .80704 - System

**Line Item 4 - Landfill monitoring documentation & reports**

**BOE**

Estimates received from David Kidd, Colburn Kennedy and Doug Shafer from the D&D projects. This scope was transferred to cost account HAD May 16, 2000.

This activity will provide remedial monitoring of ground water systems for the landfill to verify that they are operating properly. This effort has been previously performed under a different WBS. The estimates provided by David Kidd are based on their historical data.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element	Skill	Department	Curve	Quantity	Units
750 STRAIGHT TIME BASE	S030 GEOLOGISTS	R100S RMRS Salaried	Linear	200.00	Hours
Factors	200 hours (40 hours per year)				
A5H SUBCONTRACTED SRVS	0000 NONE	R100S RMRS Salaried	Linear	4,935.72	Dollars
Factors	100 hors (20 hours per year)	61 dollars per hour			

0.80913 [SYS 061500] .80704 - System

**Line Item 5 - Landfill monitoring subcontract**

**BOE**

Estimates received from David Kidd, Colburn Kennedy and Doug Shafer from the D&D projects. This scope was transferred to cost account HAD May 16, 2000.

This activity will provide remedial monitoring of ground water systems for the landfill to verify that they are operating properly. This effort has been previously performed under a different WBS. The estimates provided by David Kidd are based on their historical data.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element	Skill	Department	Curve	Quantity	Units
A5H SUBCONTRACTED SRVS	0000 NONE	R100S RMRS Salaried	Max Backload	181,246.10	Dollars
Factors	40000 per year s/c costs	5.6 years			

0.80913 [SYS 061500] .80704 - System

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element	Skill	Department	Curve	Quantity	Units
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WBS No: 1HAD0501  
Activity ID: 1HAD5110P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	851.659.00	Dollars
Factors	851659	Dollars						
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	453.558.50	Dollars
Factors	453559	Dollars						

Activity ID: 1HAD5120P2 Description: Surface Water Monitoring

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	SW Monitoring Station Maintenance	1.00	lot	HC	3.795	3.795	116.529	922.137	0	1.038.666	42.972	1.081.638
2	SW Compliance Monitoring	1.00	lot	HC	6.202	6.202	187.943	1.404.967	0	1.592.910	69.307	1.662.217
3	SW Analytical	1.00	lot	HC	1.356	1.356	43.760	1.378.917	0	1.422.677	16.137	1.438.814
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	939.912	939.912	0	939.912
Total for Activity 1HAD5120P2:						11.353	348.231	3.706.021	939.912	4.994.164	128.416	5.122.580

**Line Item 1 - SW Monitoring Station Maintenance**

**BOE**

SW Monitoring Station Maintenance - Estimate includes monitoring systems engineering and design; monitoring equipment and network procurement, deployment and testing; and monitoring equipment and network operation and maintenance. Surface Water monitoring systems include flow measurement structures, sampling and monitoring equipment and housings, telemetry systems and Telnet software.

Historical Data Source - WADlet 1103060101 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System and the WADlet manager cost performance tracking records were used as a basis for the current estimate.

Item Desc - Labor, subcontracts, and ODCs supporting SW Monitoring Station Maintenance.

Breakdown of Historical Data -  
Actual FY99 direct labor in support of SW Monitoring station maintenance for FY99 = 1.93 FTEs.

Average Annual Direct Labor: 677 Hours K-H Team  
Labor breakout by skill code:  
- 0.21 FTEs of environmental engineer (390 hrs/yr.), and  
- 0.16 FTEs of environmental scientist (287 hrs/yr.).

Average Annual Subcontract Cost: \$218,242.86  
- A53 \$47,162 for 0.56 FTEs of environmental engineer (estimated using \$45/hr. burdened), and  
- A5H \$125,450 for 1 FTE computer system analyst (estimated using an average rate of \$67/hr. burdened).

Rough Order-of-Magnitude (ROM) Cost Estimate per monitoring station repair: \$89,000  
Estimate based on GS01 station repair cost estimate adjusted for other locations:  
- A5H \$18K for regulatory compliance,  
- A5H \$23K for IWCP/engineering/bids, and  
- A5H \$48K for construction.

Average Annual ODC Cost6s: \$34,917.61.  
- A5C \$24,418 for sampling equipment and supplies.  
- A5M \$1,500 for technical training, and  
- A5L \$7,000 for sample collection vehicle rental.

Unit Costs Adjustment factor - NA

Revised Unit Cost - NA

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element	Skill	Department	Curve	Quantity	Units
750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	2.186.03	Hours
Factors 390.23 Hours (Env. Engineer)	5.917 annual rate factor	0.94701 --- FY00 May Earned Value Factor			
750 STRAIGHT TIME BASE	S020 ENVIRONMENTAL SCIENTISTS	R100S RMRS Salaried	Linear	1.608.03	Hours
Factors 286.97 Hours (Env. Scientist)	5.917 annual rate factor	0.94701 --- FY00 May Earned Value Factor			
A53 E-2	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Front Loaded	264.269.30	Dollars
Factors 47161.6 Dollars (sub. Env. Eng.)	5.917 annual cost factor	0.94701 --- FY00 May Earned Value Factor			
A5C SUPPLIES	0000 NONE	R100S RMRS Salaried	Front Loaded	136.823.80	Dollars
Factors 24417.6 Dollars (mon. equip. & field supplies)	5.917 annual cost factor	0.94701 --- FY00 May Earned Value Factor			

WBS No: 1HAD0501  
Activity ID: 1HAD5120P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1HAD  
\*

Starts In FY \*

A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	4,533.95	Dollars
Factors	1000	Dollars (software maintenance)	5.917	annual cost factor	0.94701	--- FY00 May Earned Value Factor		
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	204,592.00	Dollars
Factors	89000	Dollars (sub. design, planning &	3	monitoring station repairs	0.94701	--- FY00 May Earned Value Factor		
A5H	SUBCONTRACTED SRVS	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Alternate Linear	264,288.40	Dollars
Factors	58290.7	Dollars (Cmpt. Sys. Analyst)	5.917	annual cost factor	0.94701	--- FY00 May Earned Value Factor		
A5L	RENTALS	0000	NONE	C106S	Business Management Office	Linear	39,224.41	Dollars
Factors	7000	Dollars (field sampling vehicle lease)	5.917	annual lease factor	0.94701	--- FY00 May Earned Value Factor		
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	R100S	RMRS Salaried	Linear	8,405.23	Dollars
Factors	1500	Dollars (training)	5.917	annual training factor	0.94701	--- FY00 May Earned Value Factor		

**Line Item 2 - SW Compliance Monitoring**

**BOE**

SW Compliance Monitoring - Estimate includes sample event scheduling and tracking; field data and sample collection; and sample preservation, shipping, and tracking. Includes oversight of sampling subcontractor and coordination of monitoring program activities with other Site organizations.

Historical Data Source - WADlet 1103060101 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System and WADlet manager cost performance tracking records were used as a basis for the current estimates.

Item Desc - Labor, subcontracts and ODCs supporting SW Compliance Monitoring.

Breakdown of Historical Data -  
Actual FY99 direct and subcontract labor in support of SW Compliance Monitoring = 1.65 FTEs.

Average Annual Direct Labor: 1,106 Hours K-H Team  
Labor breakout by skill code:  
- environmental engineer (384 hrs/yr.),  
- environmental scientist (487 hrs/yr.),  
- industrial hygienist (120 hrs/yr.), and  
- radiological control technician (115 hrs/yr.).

Average Annual Subcontract Costs: \$522,990  
Breakout by subcontract type:  
- A53 \$44,107 environmental engineer (estimated using \$45/hr. burdened),  
- A58 \$474,478 for CASI sampling subcontractor  
- A5H \$4,405 quality control engineer (estimated using \$46/hr. burdened).

Average Annual ODC Costs: \$12,209  
Breakout by cost element:  
- A5C \$12,209 for sampling supplies.

Unit Cost Adjustment factor:  
- The annual sampling services were reduced by \$283,627 (based on an independent estimate for total sampling costs for CWA compliance and predischage sampling). CWA Compliance and predischage sampling will be included in the RFCSS budget under Surface Water Operations.

Revised Unit Cost:  
- CASI sampling subcontract \$190,851.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element	Skill	Department	Curve	Quantity	Units
750 STRAIGHT TIME BASE	E050 ENVIRONMENTAL ENGINEERS	R100S RMRS Salaried	Linear	2,153.53	Hours
Factors	384.32 Hours (Env. Engineer)	5.917 annual rate factor	0.94701	--- FY00 May Earned Value Factor	
750 STRAIGHT TIME BASE	P090 INDUSTRIAL HYGIENISTS	K242S Occup Safetv & Indus Hvgiene	Linear	674.27	Hours
Factors	120.33 Hours (Industrial Hygenist)	5.917 annual rate factor	0.94701	--- FY00 May Earned Value Factor	
750 STRAIGHT TIME BASE	S020 ENVIRONMENTAL SCIENTISTS	R100S RMRS Salaried	Linear	2,730.24	Hours
Factors	487.24 Hours (Env. Scientist)	5.917 annual rate factor	0.94701	--- FY00 May Earned Value Factor	

WBS No: 1HAD0501  
Activity ID: 1HAD5120P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1HAD  
\*

Starts In FY \*

750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KH10H	EESH&Q Steelworkers	Linear	643.95	Hours
Factors	114.92	Hours (Rad. Cntrl. Technicians)	5.917	annual rate factor	0.94701	--- FY00 Max Earned Value Factor		
A53	E-2	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	247.151.00	Dollars
Factors	44106.6	Dollars (sub. Env. Engr.)	5.917	annual rate factor	0.94701	--- FY00 Max Earned Value Factor		
A58	ASI	0000	NONE	K267S	Analytical Laboratory Services	Front Loaded	1.069.431.00	Dollars
Factors	190851	Dollars (Sampling Sub.)	5.917	annual cost factor	0.94701	--- FY00 Max Earned Value Factor		
A5C	SUPPLIES	0000	NONE	R100S	RMRS Salaried	Linear	68.412.36	Dollars
Factors	12208.9	Dollars (Sampling Supplies)	5.917	annual cost factor	0.94701	--- FY00 Max Earned Value Factor		
A5H	SUBCONTRACTED SRVS	E110	QUALITY CONTROL ENGINEERS	R100S	RMRS Salaried	Linear	19.972.61	Dollars
Factors	4405.1	Dollars (Quality Cntrl. Engr.)	5.917	annual cost factor	0.94701	--- FY00 Max Earned Value Factor		

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - SW Analytical**

**BOE**

SW Analytical - Estimate includes analytical services and analytical verification & validation laboratory data for surface water compliance monitoring programs.

Historical Data Source - WADlet 1103060101 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System and WADlet manager cost performance tracking records were used as a basis for the current estimates.

Item Desc - Labor, subcontracts and ODCs supporting SW Analytical.

Breakdown of Historical Data -  
Actual FY99 direct labor in support of SW Analytical = 0.26 FTEs

Average Annual Direct Labor: 484 Hours K-H Team  
Labor breakout by skill code:  
- 0.26 FTEs of environmental scientist (484 hrs/yr.),

Average Annual Analytical Services Subcontract Estimated Costs through Closure: \$443,975  
- During the baseline year (FY99), the actual analytical costs were \$222,248 for 3047 line-item-codes (LICs) analyzed (average of \$72.94/LIC). These costs included CWA and predischage sample analyses.

This information combined initial estimates for D&D and ER performance and other project related monitoring were used to refine the rough Order-of-Magnitude (ROM) analytical services cost estimate through closure. Out-year sampling activity and cost estimates by year are: FY00 - 4469 LICs -> \$325,969, FY01 - 4500 LICs -> \$328,230, FY02 - 5310 LICs -> \$387,311, FY03 - 5629 LICs -> \$410,579, FY04 - 6400 LICs -> \$466,816, FY05 - 5769 LICs -> \$422,760, and FY06: 1304 LICs -> \$95,114. The total estimated analytical costs through closure = \$2,627,005 (or \$443,975/year).

Average Annual V&V Subcontract Estimated Costs: \$82,365  
- Verification and validation (V&V) costs were approximately equal to 20% of the FY99 baseline year analytical costs. Projected V&V through out years using 20%: FY00 - \$65,194, FY01 - \$65,646, FY02 - \$77,462, FY03 - \$82,116, FY04 - \$93,363, FY05 - \$84,552, and FY06 - \$19,022. The total estimated V&V costs through closure = \$487,354 (or \$82,365/year).

Unit Cost Adjustment factor:  
- The annual analytical services and V&V costs were reduced by \$156,417 and \$31,283 respectively (bases on an independent estimate for total costs of CWA compliance and predischage sample analysis). CWA Compliance and predischage evaluations will be included in the RFCSS budget under Surface Water Operations.

Revised Unit Cost:  
- Analytical services \$287,558 and V&V \$51,082.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	1.356.04	Hours
Factors	242	Hours (Env. Scientist)	5.917	annual rate factor	0.94701	--- FY00 Max Earned Value Factor		
A5H	SUBCONTRACTED SRVS	0000	NONE	K267S	Analytical Laboratory Services	Back Loaded	1.149.099.00	Dollars
Factors	253442	Dollars (sub. analytical services)	5.917	annual cost factor	0.94701	--- FY00 Max Earned Value Factor		
A5H	SUBCONTRACTED SRVS	0000	NONE	K267S	Analytical Laboratory Services	Alternate Linear	229.818.10	Dollars
Factors	50688	Dollars (sub. V&V services)	5.917	annual cost factor	0.94701	--- FY00 Max Earned Value Factor		

0.80913 [SYS 061500] .80704 - System

WBS No: 1HAD0501  
Activity ID: 1HAD5120P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	613.422.80	Dollars
Factors 613423 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	326.489.40	Dollars
Factors 326489 Dollars								

Activity ID: 1HAD5130P2 Description: WARP Well abandonment program

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Well Abandonment	1.00	each	HC	2.320	2.320	52.374	2,108.645	0	2,161.018	17.281	2,178.299
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	539.107	539.107	0	539.107
Total for Activity 1HAD5130P2:						2.320	52.374	2,108.645	539.107	2,700.125	17.281	2,717.406

**Line Item 1 - Well Abandonment**

**BOE**

Historical Data Source: Derived from FY97 WARP program activity in PCS -002A for September, 1997. No more recent data is available for baseline estimates. FY97 was the last time this activity was performed.

Item Desc: The Well Abandonment and Replacement Program performs well maintenance activities for the groundwater monitoring program. Implementation of the WARP achieves the general objective of ensuring that groundwater monitoring wells and piezometers are viable. The WARP provides a means to eliminate non viable wells and selectively replace wells and piezometers where sample and water level readings are suspected of not being representative of subsurface conditions. Nonviable or obsolete wells are permanently abandoned in accordance with State regulation 2 CCR 402-2 to prevent potential contaminant migration along well bores. Well replacements are installed at critical monitoring locations which have been irreparable damaged.

The concept for WARP is as follows:  
Provide support to ER remedial and D&D organizations in removing obsolete well installations that require abandonment prior to construction/demolition activities.  
Abandon nonessential wells using a phased approach over a four year period.  
Replace damaged wells that are critical to the monitoring program.  
Customer: DOE, CDH, EPA

Breakdown of Historical Data:  
Item:750 Direct Annual Labor  
Units: lot Unit Cost: 40 Hours based on \$48/hr ave. rate R100S (Health and Safety)  
Units: lot Unit Cost: 500 Hours based on \$33.52/hr ave. rate KH10H (RCT)  
Units: lot Unit Cost: 40 Hours based on \$48/hr ave. rate R100S (Rad. engineering)  
Units: lot Unit Cost: 40 Hours based on \$48/hr ave. rate R100S (Geologist)

Item:A5H Annual Non-Labor  
Units: lot Unit Cost: \$511,346 Dollars based on FY97 Tierra cost, \$42/hr ave. rate (Technicians)  
Units: lot Unit Cost: \$128,800 Dollars based on FY99 Tierra cost, \$70 ave rate(Geologist)  
Units: lot Unit Cost: \$3840 Dollars based on R100S RMRS HQ cost, \$48 ave rate(QA)

Item:A5C annual Non-Labor  
Units: lot Unit Cost: \$6,090 Dollars based on FY99 ave for waste drums and waste removal costs

Unit Cost Adjustment factor:2.0 Revised Unit Cost: NA  
Basis for adjustment:budgeted scope is twice the historical scope from FY97 WARP program

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	R100S	RMRS Salaried	Trianglr Decr	160.00	Hours
Factors 40 Hours(H&S) 4 years								
750	STRAIGHT TIME BASE	P080	HEALTH PHYSICISTS	R100S	RMRS Salaried	Trianglr Decr	160.00	Hours
Factors 40 Hours(Rad Eng.) 4 years								
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KH10H	EESH&Q Steelworkers	Trianglr Decr	2,000.00	Hours
Factors 500 Hours(RCT) 4 years								
A5C	SUPPLIES	0000	NONE	R100S	RMRS Salaried	Trianglr Decr	24.360.00	Dollars
Factors 6090 Dollars(Waste Eqpt.) 4 years								

WBS No: 1HAD0501  
Activity ID: 1HAD5130P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Trianglr Decr	1,654,990.00	Dollars
Factors	511346 Dollars(Techs)	4	years					
A5H	SUBCONTRACTED SRVS	E110	QUALITY CONTROL ENGINEERS	R100S	RMRS Salaried	Trianglr Decr	12,428.30	Dollars
Factors	3840 Dollars(QA)	4	years					
A5H	SUBCONTRACTED SRVS	S030	GEOLOGISTS	R100S	RMRS Salaried	Trianglr Decr	416,866.00	Dollars
Factors	128800 Dollars(Env. Eng.)	4	years					
0.80913 [SYS 061400] .80704 - System								
0.80913 [SYS 061400] .80704 - System								

**Line Item SYS - Contingency And Escalation**

**BOE**

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	346.139.40	Dollars
	Factors 346139 Dollars								
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	192.967.60	Dollars
	Factors 192968 Dollars								

Activity ID: 1HXXX511P2 Description: Ground Water Monitoring - FY06

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Well Installation/ Replacement	0.17	each	HC	5,633	977	27,489	48,584	0	76,073	14,702	90,776
2	Groundwater Monitoring	0.17	each	HC	12,114	2,102	55,380	457,879	0	513,260	29,620	542,880
3	Groundwater Analytical	0.17	each	HC	0	0	0	253,729	0	253,729	0	253,729
4	Landfill monitoring documentatiion & reports	0.17	each	HC	200	35	1,044	856	0	1,900	558	2,459
5	Landfill monitoring subcontract	0.17	each	HC	0	0	0	31,446	0	31,446	0	31,446
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	642,086	642,086	0	642,086
Total for Activity 1HXXX511P2:						3,114	83,913	792,495	642,086	1,518,495	44,881	1,563,376

**Line Item 1 - Well Installation/ Replacement**

**BOE**

Historical Data Source: Derived from FY97 WARP program activity in PCS -002A for September, 1997
Item Desc: The Well Abandonment and Replacement Program performs well maintenance activities for the groundwater monitoring program. Implementation of the WARP achieves the general objective of ensuring that groundwater monitoring wells and piezometers are viable. The WARP provides a means to eliminate non viable wells and selectively replace wells and piezometers where sample and water level readings are suspected of not being representative of subsurface conditions. Nonviable or obsolete wells are permanently abandoned in accordance with State regulation 2 CCR 402-2 to prevent potential contaminant migration along well bores. Well replacements are installed at critical monitoring locations which have been irreparable damaged or are found to be incorrectly located.
Breakdown of Historical Data: Item:750 Direct Annual Labor Units: lot Unit Cost: 752 Hours based on \$48/hr ave. rate R100S (Geologist) Units: lot Unit Cost: 200 Hours based on \$33/hr ave. rate KH10H (RCT)
Item:A5H Annual Non-Labor  Units: lot Unit Cost: \$40,457 Dollars based on FY00 RTG Subcontract cost (Sr.Technician) Units: lot Unit Cost: \$13,709 dollars based on FY00 cost for Geologist subcontractor
Item:A5C annual Non-Labor Units: lot Unit Cost: \$3500 Dollars based on FY99 ave Waste Container costs  Unit Cost Adjustment factor: .79 Revised Unit Cost: NA  Basis for adjustment:Reduced number of wells with respect to FY97 Warp Project.  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
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WBS No: 1HAD0501  
Activity ID: 1HXX511P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

750	STRAIGHT TIME BASE	S030	GEOLOGISTS	R100S	RMRS Salaried	Linear	4.449.36	Hours
Factors	752	Hours(Geologist)	5.9167	Annual Rate Factor				
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KH10H	EESH&Q Steelworkers	Linear	1.183.34	Hours
Factors	200	Hours(RCT)	5.9167	Annual Rate Factor				
A5C	SUPPLIES	0000	NONE	R100S	RMRS Salaried	Linear	20.708.45	Dollars
Factors	3500	Dollars(Field Supplies)	5.9167	Annual Rate Factor				
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Back Loaded	193.684.00	Dollars
Factors	40457	Dollars(Drillers)	5.9167	Annual Rate Factor				
						0.80913 [SYS 061500] .80704 - System		
A5H	SUBCONTRACTED SRVS	S030	GEOLOGISTS	R100S	RMRS Salaried	Back Loaded	65.630.53	Dollars
Factors	13709	Dollars(Geologist)	5.9167	Annual Rate Factor				

0.80913 [SYS 061500] .80704 - System

**Line Item 2 - Groundwater Monitoring**

BOE

The Groundwater Monitoring Network at Rocky Flats Plant (RFP) is currently comprised of ~150 wells which are sampled semiannually, and approximately 350 wells for which water levels are measured on monthly, quarterly and semi-annual timeframes. The monitoring program consists of water quality sample collection, well development, water level measurements, field parameter measurements, sample management and data management done on a quarterly basis. Additional tasks include the preparation of a quarterly well status report, SME responsibility for GT and GW series SOPs, and maintenance of the core log database and core repository and responsibility for the Well Control Procedure. At times, the scope may cover special sampling, well development and water level measurements, aquifer testing and special reporting. Item Desc: Cost is for 1.7 FTE for environmental scientists to implement the groundwater monitoring scope, .5 FTE for RCT support and subcontract costs for sampling, water levels, data entry, shipping and HSS duties.

Historical Data Source: WADLET 1103080401 actuals P&I Report dated 10/7/99 and Historic cost estimate from groundwater monitoring subcontractor.

Breakdown of Historical Data:

Item: 750 Direct Annual Labor

Units: lot Unit Cost: 1296 Hours based on \$48/hr ave. rate R100S (Geologist)

Units: lot Unit Cost: 718 Hours based on \$33/hr ave. rate KH10H (RCT)

Item: A5H Annual Non-Labor

Units: lot Unit Cost: \$96,468 Dollars based on RMRS HQ cost, \$52.50/hr ave. rate (Field Supervisor)

Units: lot Unit Cost: \$469,392 Dollars based on FY00 RTG Subcontract cost (Technicians)

Item: A5C annual Non-Labor

Units: lot Unit Cost: \$13,102 Dollars based on FY99 ave hardware/software upgrade costs

Unit Cost Adjustment factor: 1.11 Revised Unit Cost: NA

Basis for adjustment: Cost increase due to RCT support requirements

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	S030	GEOLOGISTS	R100S	RMRS Salaried	Linear	7.261.75	Hours
Factors	1296	Hours (Geologist)	5.9167	Annual Rate Factor	0.94701 --- FY00 Mav Earned Value Factor			
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLIGI	KH10H	EESH&Q Steelworkers	Linear	4.852.37	Hours
Factors	866	Hours (RCT)	5.9167	Annual Rate Factor	0.94701 --- FY00 Mav Earned Value Factor			
A5C	SUPPLIES	0000	NONE	R100S	RMRS Salaried	Linear	73.413.16	Dollars
Factors	13102	Dollars	5.9167	Annual Rate Factor	0.94701 --- FY00 Mav Earned Value Factor			
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Alternate Linear	2.128.275.00	Dollars
Factors	469430	Dollars(Techs)	5.9167	Annual Rate Factor	0.94701 --- FY00 Mav Earned Value Factor			
						0.80913 [SYS 061500] .80704 - System		
A5H	SUBCONTRACTED SRVS	S030	GEOLOGISTS	R100S	RMRS Salaried	Back Loaded	437.361.20	Dollars
Factors	96468	Dollars (Field super.)	5.9167	Annual Rate Factor	0.94701 --- FY00 Mav Earned Value Factor			

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - Groundwater Analytical**

BOE

Groundwater Analytical Services Needs for the period of performance includes laboratory analyses for RFCA monitoring, the Industrial Area IM/IRA and the RFCA Groundwater Evaluations Scope. Offsite analytical services are required to measure a variety of sample parameters required by Site permits, agreements

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Project Baseline Devl  
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and DOE Orders. Analytical data are used for required permit and agreement reporting as well as for operational decision making purposes. Groundwater utilizes the Modular Lab for offsite sample shipment DOE screening purposes. All environmental samples are currently analyzed by offsite laboratories.

Historical Data Source: ASD Laboratory Average Cost sheet 8/3/98

Item Desc:Groundwater Analytical Services Needs for the period of performance includes laboratory analyses for RFCA monitoring, the Industrial Area IM/IRA and the RFCA Groundwater Evaluations Scope. Validation of analytical data at the Site 25% requirement are also included.

Breakdown of Historical Data:  
Item:A5H Annual Non-Labor

Units: lot Unit Cost: \$323,706 subcontract lab and validation services

Unit Cost Adjustment factor: 1.4 Revised Unit Cost: NA  
Basis for adjustment: Increased monitoring scope and compressed closure schedule

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources												
	Cost Element			Skill		Department			Curve	Quantity	Units	
	A5H	SUBCONTRACTED SRVS		0000	NONE	K267S	Analytical Laboratory Services		Back Loaded	1,462,400.00	Dollars	
Factors	322559	Dollars		5.9167	Annual Rate Factor		0.94701	--- FY00 May Earned Value Factor				

**Line Item 4 - Landfill monitoring documentation & reports**

BOE	Estimates received from David Kidd, Colburn Kennedy and Doug Shafer from the D&D projects. This scope was transferred to cost account HAD May 16, 2000.											
	This activity will provide remedial monitoring of ground water systems for the landfill to verify that they are operating properly. This effort has been previously performed under a different WBS. The estimates provided by David Kidd are based on their historical data.											
	This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.											

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	S030	GEOLOGISTS	R100S	RMRS Salaried	Linear	200.00	Hours
	Factors	200 hours (40 hours per year)							
	A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	4.935.72	Dollars
	Factors	100 hors (20 hours per year) 61 dollars per hour							

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**Line Item 5 - Landfill monitoring subcontract**

BOE	Estimates received from David Kidd, Colburn Kennedy and Doug Shafer from the D&D projects. This scope was transferred to cost account HAD May 16, 2000.											
	This activity will provide remedial monitoring of ground water systems for the landfill to verify that they are operating properly. This effort has been previously performed under a different WBS. The estimates provided by David Kidd are based on their historical data.											
	This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.											

Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS		0000	NONE	R100S	RMRS Salaried	Max Backload	181,246.10	Dollars
	Factors	40000	per year s/c costs	5.6	years					

0.80913 ISYS 0615001 .80704 - Svsstem

**Line Item SYS - Contingency And Escalation**

BOE												
Resources												
	Cost Element				Skill		Department			Curve	Quantity	Units
	CON	CONTINGENCY			0000	NONE	ZDEPT	No Department		Linear	444,985.80	Dollars
	Factors	444986 Dollars										
	ESC	ESCALATION			0000	NONE	ZDEPT	No Department		Linear	197,100.40	Dollars
	Factors	197100 Dollars										

Activity ID: 1HXXX512P2 Description: Surface Water Monitoring - FY06

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
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WBS No: 1HAD0501  
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1	SW Monitoring Station Maintenance	0.17	lot	HC	3.795	658	20.218	159.992	0	180.210	10.813	191.024
2	SW Compliance Monitoring	0.17	lot	HC	6.202	1.076	32.608	243.764	0	276.372	17.440	293.813
3	SW Analytical	0.17	lot	HC	1.356	235	7.592	239.244	0	246.837	4.061	250.897
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	526.296	526.296	0	526.296
Total for Activity 1HXXX512P2:						1.970	60.419	643.001	526.296	1,229.715	32.315	1,262.029

**Line Item 1 - SW Monitoring Station Maintenance**

**BOE**

SW Monitoring Station Maintenance - Estimate includes monitoring systems engineering and design; monitoring equipment and network procurement, deployment and testing; and monitoring equipment and network operation and maintenance. Surface Water monitoring systems include flow measurement structures, sampling and monitoring equipment and housings, telemetry systems and Telnet software.

Historical Data Source - WADlet 1103060101 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System and the WADlet manager cost performance tracking records were used as a basis for the current estimate.

Item Desc - Labor, subcontracts, and ODCs supporting SW Monitoring Station Maintenance.

Breakdown of Historical Data -  
Actual FY99 direct labor in support of SW Monitoring station maintenance for FY99 = 1.93 FTEs.

Average Annual Direct Labor: 677 Hours K-H Team  
Labor breakout by skill code:  
- 0.21 FTEs of environmental engineer (390 hrs/yr.), and  
- 0.16 FTEs of environmental scientist (287 hrs/yr.).

Average Annual Subcontract Cost: \$218,242.86  
- A53 \$47,162 for 0.56 FTEs of environmental engineer (estimated using \$45/hr. burdened), and  
- A5H \$125,450 for 1 FTE computer system analyst (estimated using an average rate of \$67/hr. burdened).

Rough Order-of-Magnitude (ROM) Cost Estimate per monitoring station repair: \$89,000  
Estimate based on GS01 station repair cost estimate adjusted for other locations:  
- A5H \$18K for regulatory compliance,  
- A5H \$23K for IWCP/engineering/bids, and  
- A5H \$48K for construction.

Average Annual ODC Cost6s: \$34,917.61.  
- A5C \$24,418 for sampling equipment and supplies.  
- A5M \$1,500 for technical training, and  
- A5L \$7,000 for sample collection vehicle rental.

Unit Costs Adjustment factor - NA

Revised Unit Cost - NA

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

	Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried		Linear	2.186.65	Hours
Factors	390.23 Hours (Env. Engineer)		5.917 annual rate factor		0.94701 --- FY00 May Earned Value Factor				
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried		Linear	1.608.03	Hours
Factors	286.97 Hours (Env. Scientist)		5.917 annual rate factor		0.94701 --- FY00 May Earned Value Factor				
A53	E-2	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried		Front Loaded	264.269.30	Dollars
Factors	47161.6 Dollars (sub. Env. Eng.)		5.917 annual cost factor		0.94701 --- FY00 May Earned Value Factor				
A5C	SUPPLIES	0000	NONE	R100S	RMRS Salaried		Front Loaded	136.823.80	Dollars
Factors	24417.6 Dollars (mon. equip. & field supplies)		5.917 annual cost factor		0.94701 --- FY00 May Earned Value Factor				
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried		Linear	204.592.00	Dollars
Factors	89000 Dollars (sub. design, planning & monitoring station repairs		3		0.94701 --- FY00 May Earned Value Factor				
							0.80913 [SYS 061500] .80704 - System		
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried		Linear	4.533.95	Dollars
Factors	1000 Dollars (software maintenance)		5.917 annual cost factor		0.94701 --- FY00 May Earned Value Factor				
							0.80913 [SYS 061500] .80704 - System		

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A5H	SUBCONTRACTED SRVS	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Alternate Linear	264,288.40	Dollars
Factors	58290.7	Dollars (Cmptr. Sys. Analyst)	5.917	annual cost factor	0.94701	--- FY00 May Earned Value Factor		
A5L	RENTALS	0000	NONE	C106S	Business Management Office	Linear	39,224.41	Dollars
Factors	7000	Dollars (field sampling vehicle lease)	5.917	annual lease factor	0.94701	--- FY00 May Earned Value Factor	0.80913 [SYS 061500] .80704 - System	
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	R100S	RMRS Salaried	Linear	8,405.23	Dollars
Factors	1500	Dollars (training)	5.917	annual training factor	0.94701	--- FY00 May Earned Value Factor		

**Line Item 2 - SW Compliance Monitoring**

**BOE**

SW Compliance Monitoring - Estimate includes sample event scheduling and tracking; field data and sample collection; and sample preservation, shipping, and tracking. Includes oversight of sampling subcontractor and coordination of monitoring program activities with other Site organizations.

Historical Data Source - WADlet 1103060101 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System and WADlet manager cost performance tracking records were used as a basis for the current estimates.

Item Desc - Labor, subcontracts and ODCs supporting SW Compliance Monitoring.

Breakdown of Historical Data -  
Actual FY99 direct and subcontract labor in support of SW Compliance Monitoring = 1.65 FTEs.

Average Annual Direct Labor: 1,106 Hours K-H Team  
Labor breakout by skill code:  
- environmental engineer (384 hrs/yr.),  
- environmental scientist (487 hrs/yr.),  
- industrial hygienist (120 hrs/yr.), and  
- radiological control technician (115 hrs/yr.).

Average Annual Subcontract Costs: \$522,990  
Breakout by subcontract type:  
- A53 \$44,107 environmental engineer (estimated using \$45/hr. burdened),  
- A58 \$474,478 for CASI sampling subcontractor  
- A5H \$4,405 quality control engineer (estimated using \$46/hr. burdened).

Average Annual ODC Costs: \$12,209  
Breakout by cost element:  
- A5C \$12,209 for sampling supplies.

Unit Cost Adjustment factor:  
- The annual sampling services were reduced by \$283,627 (based on an independent estimate for total sampling costs for CWA compliance and predischage sampling). CWA Compliance and predischage sampling will be included in the RFCSS budget under Surface Water Operations.

Revised Unit Cost:  
- CASI sampling subcontract \$190,851.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	2,153.53	Hours
Factors	384.32	Hours (Env. Engineer)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor		
750	STRAIGHT TIME BASE	P090	INDUSTRIAL HYGIENISTS	K242S	Occup Safetv & Indus Hvgiene	Linear	674.27	Hours
Factors	120.33	Hours (Industrial Hygienist)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor		
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	2,730.24	Hours
Factors	487.24	Hours (Env. Scientist)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor		
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KH10H	EESH&Q Steelworkers	Linear	643.95	Hours
Factors	114.92	Hours (Rad. Cntrl. Technicians)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor		
A53	E-2	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	247,151.00	Dollars
Factors	44106.6	Dollars (sub. Env. Engr.)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor		
A58	ASI	0000	NONE	K267S	Analytical Laboratory Services	Front Loaded	1,069,431.00	Dollars
Factors	190851	Dollars (Sampling Sub.)	5.917	annual cost factor	0.94701	--- FY00 May Earned Value Factor		

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A5C	SUPPLIES	0000	NONE	R100S	RMRS Salaried	Linear	68,412.36	Dollars
Factors	12208.9	Dollars (Sampling Supplies)	5.917	annual cost factor	0.94701	--- FY00 Max Earned Value Factor		
A5H	SUBCONTRACTED SRVS	E110	QUALITY CONTROL ENGINEERS	R100S	RMRS Salaried	Linear	19,972.61	Dollars
Factors	4405.1	Dollars (Quality Cntrl. Engr.)	5.917	annual cost factor	0.94701	--- FY00 Max Earned Value Factor		

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**Line Item 3 - SW Analytical**

**BOE**

SW Analytical - Estimate includes analytical services and analytical verification & validation laboratory data for surface water compliance monitoring programs.

Historical Data Source - WADlet 1103060101 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System and WADlet manager cost performance tracking records were used as a basis for the current estimates.

Item Desc - Labor, subcontracts and ODCs supporting SW Analytical.

Breakdown of Historical Data -  
Actual FY99 direct labor in support of SW Analytical = 0.26 FTEs

Average Annual Direct Labor: 484 Hours K-H Team  
Labor breakout by skill code:  
- 0.26 FTEs of environmental scientist (484 hrs/yr.),

Average Annual Analytical Services Subcontract Estimated Costs through Closure: \$443,975  
- During the baseline year (FY99), the actual analytical costs were \$222,248 for 3047 line-item-codes (LICs) analyzed (average of \$72.94/LIC). These costs included CWA and predischARGE sample analyses.

This information combined initial estimates for D&D and ER performance and other project related monitoring were used to refine the rough Order-of-Magnitude (ROM) analytical services cost estimate through closure. Out-year sampling activity and cost estimates by year are: FY00 - 4469 LICs -> \$325,969, FY01 - 4500 LICs -> \$328,230, FY02 - 5310 LICs -> \$387,311, FY03 - 5629 LICs -> \$410,579, FY04 - 6400 LICs -> \$466,816, FY05 - 5769 LICs -> \$422,760, and FY06: 1304 LICs -> \$95,114. The total estimated analytical costs through closure = \$2,627,005 (or \$443,975/year).

Average Annual V&V Subcontract Estimated Costs: \$82,365  
- Verification and validation (V&V) costs were approximately equal to 20% of the FY99 baseline year analytical costs. Projected V&V through out years using 20%: FY00 - \$65,194, FY01 - \$65,646, FY02 - \$77,462, FY03 - \$82,116, FY04 - \$93,363, FY05 - \$84,552, and FY06 - \$19,022. The total estimated V&V costs through closure = \$487,354 (or \$82,365/year).

Unit Cost Adjustment factor:  
- The annual analytical services and V&V costs were reduced by \$156,417 and \$31,283 respectively (bases on an independent estimate for total costs of CWA compliance and predischARGE sample analysis). CWA Compliance and predischARGE evaluations will be included in the RFCSS budget under Surface Water Operations.

Revised Unit Cost:  
- Analytical services \$287,558 and V&V \$51,082.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

	Cost Element		Skill		Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	1,356.04	Hours
Factors	242	Hours (Env. Scientist)	5.917	annual rate factor	0.94701	--- FY00 Max Earned Value Factor		
A5H	SUBCONTRACTED SRVS	0000	NONE	K267S	Analytical Laboratory Services	Back Loaded	1,149,099.00	Dollars
Factors	253442	Dollars (sub. analytical services)	5.917	annual cost factor	0.94701	--- FY00 Max Earned Value Factor		
						0.80913 [SYS 061500] .80704 - System		
A5H	SUBCONTRACTED SRVS	0000	NONE	K267S	Analytical Laboratory Services	Alternate Linear	229,818.10	Dollars
Factors	50688	Dollars (sub. V&V services)	5.917	annual cost factor	0.94701	--- FY00 Max Earned Value Factor		

0.80913 [SYS 061500] .80704 - System

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

	Cost Element		Skill		Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	367,674.40	Dollars
Factors	367674	Dollars						

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ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	158,621.10	Dollars
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Factors 158621 Dollars

Activity ID: 1HXXX513P2 Description: WARP Well abandonment program - FY06

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Well Abandonment	0.27	each	HC	2.320	632	14,278	574,847	0	589,125	5,639	594,764
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	462,607	462,607	0	462,607
Total for Activity 1HXXX513P2:						632	14,278	574,847	462,607	1,051,732	5,639	1,057,371

**Line Item 1 - Well Abandonment**

BOE	<p>Historical Data Source: Derived from FY97 WARP program activity in PCS -002A for September, 1997. No more recent data is available for baseline estimates. FY97 was the last time this activity was performed.</p> <p>Item Desc: The Well Abandonment and Replacement Program performs well maintenance activities for the groundwater monitoring program. Implementation of the WARP achieves the general objective of ensuring that groundwater monitoring wells and piezometers are viable. The WARP provides a means to eliminate non viable wells and selectively replace wells and piezometers where sample and water level readings are suspected of not being representative of subsurface conditions. Nonviable or obsolete wells are permanently abandoned in accordance with State regulation 2 CCR 402-2 to prevent potential contaminant migration along well bores. Well replacements are installed at critical monitoring locations which have been irreparable damaged.</p> <p>The concept for WARP is as follows: Provide support to ER remedial and D&amp;D organizations in removing obsolete well installations that require abandonment prior to construction/demolition activities. Abandon nonessential wells using a phased approach over a four year period. Replace damaged wells that are critical to the monitoring program. Customer: DOE, CDH, EPA</p> <p>Breakdown of Historical Data: Item:750 Direct Annual Labor Units: lot Unit Cost: 40 Hours based on \$48/hr ave. rate R100S (Health and Safety) Units: lot Unit Cost: 500 Hours based on \$33.52/hr ave. rate KH10H (RCT) Units: lot Unit Cost: 40 Hours based on \$48/hr ave. rate R100S (Rad. engineering) Units: lot Unit Cost: 40 Hours based on \$48/hr ave. rate R100S (Geologist)</p> <p>Item:A5H Annual Non-Labor Units: lot Unit Cost: \$511,346 Dollars based on FY97 Tierra cost, \$42/hr ave. rate (Technicians) Units: lot Unit Cost: \$128,800 Dollars based on FY99 Tierra cost, \$70 ave rate(Geologist) Units: lot Unit Cost: \$3840 Dollars based on R100S RMRS HQ cost, \$48 ave rate(QA)</p> <p>Item:A5C annual Non-Labor Units: lot Unit Cost: \$6,090 Dollars based on FY99 ave for waste drums and waste removal costs</p> <p>Unit Cost Adjustment factor:2.0 Revised Unit Cost: NA Basis for adjustment:budgeted scope is twice the historical scope from FY97 WARP program</p> <p>This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.</p>
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Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	E120 SAFETY ENGINEERS	R100S RMRS Salaried	Triandlr Decr	160.00	Hours
Factors	40 Hours(H&S)	4 years				
	750 STRAIGHT TIME BASE	P080 HEALTH PHYSICISTS	R100S RMRS Salaried	Triandlr Decr	160.00	Hours
Factors	40 Hours(Rad Eng.)	4 years				
	750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLOGI	KH10H EESH&Q Steelworkers	Triandlr Decr	2,000.00	Hours
Factors	500 Hours(RCT)	4 years				
	A5C SUPPLIES	0000 NONE	R100S RMRS Salaried	Triandlr Decr	24,360.00	Dollars
Factors	6090 Dollars(Waste Eqp.)	4 years				
	A5H SUBCONTRACTED SRVS	0000 NONE	R100S RMRS Salaried	Triandlr Decr	1,654,990.00	Dollars
Factors	511346 Dollars(Techs)	4 years				
	A5H SUBCONTRACTED SRVS	E110 QUALITY CONTROL ENGINEERS	R100S RMRS Salaried	Triandlr Decr	12,428.30	Dollars
Factors	3840 Dollars(QA)	4 years				

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A5H	SUBCONTRACTED SRVS	S030	GEOLOGISTS	R100S	RMRS Salaried	Trianglr Decr	416,866.00	Dollars
Factors	128800 Dollars(Env. Eng.)	4	years					

0.80913 [SYS 061400] .80704 - System

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element	Skill	Department	Curve	Quantity	Units
CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	331.032.80	Dollars
Factors	331033 Dollars				
ESC ESCALATION	0000 NONE	ZDEPT No Department	Linear	131.574.00	Dollars
Factors	131574 Dollars				

WBS No: 1HAD0502 Title: Analysis/Modeling

Activity ID: 1HAD5210P2 Description: GW Analysis Modeling & Reporting

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Data Assessment/Reporting	1.00	each		8.993	8.993	270.599	403.145	0	673.744	99.788	773.532
2	RFCA Groundwater Evaluation	1.00	each		4.111	4.111	123.708	1,008.411	0	1,132.118	45.619	1,177.738
3	RFCA D&D Evaluation	1.00	each		3.922	3.922	117.998	1,180.684	0	1,298.682	43.514	1,342.196
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	815.884	815.884	0	815.884
Total for Activity 1HAD5210P2:						17.026	512.305	2,592.240	815.884	3,920.429	188.921	4,109.350

**Line Item 1 - Data Assessment/Reporting**

**BOE**

Historical Data Source: WADLET 1103080401 actuals P&I Report dated 10/7/99 Item Desc:
Annual RFCA Reporting: An annual groundwater monitoring report is required under the RFCA Action Level Framework Addendum. This report must be submitted to the Colorado Department of Health (CDPHE) and Environmental Protection Agency (EPA) per the RFCA Interagency Agreement. This report discusses and interprets the hydrology and groundwater quality of the Site.
Quarterly RFCA Reporting: Quarterly (based on calendar year) data assessments of groundwater quality at the Site are required by RFCA Action Level Framework. These assessments are used as an early-warning of changes in groundwater quality, and must be submitted to the Regulatory Agencies on a regular basis.
RFCA Reporting requires 1.5 FTE of geologic support for data reduction, data assessment, report writing and SWD database support, subcontract support for GIS support, report production geologic log data entry.
Breakdown of Historical Data: Item:750 Direct Annual Labor Units: lot Unit Cost: 1840 Hours based on \$48/hr ave. rate R100S (Geologist) Item:A5H Annual Non-Labor Units: lot Unit Cost: \$44,800 Dollars based on FY99 Tierra Subcontract cost, \$70/hr ave. rate (Geologist) Units: lot Unit Cost: \$51,664 Dollars based on FY00 Destiny Subcontract cost, \$68/hr Units: lot Unit Cost: \$6,400 Dollars based on FY99 ave Subcontract costs, \$30/hr ave. rate (Clerical) Units: lot Unit Cost: \$17,250 Dollars based on FY99 ave Subcontract costs, \$40/hr ave. rate (Software Maintenance) Item:A5M Non-Labor Units: lot Unit Cost: \$1,500 Dollars based on FY99 ave Training costs
Unit Cost Adjustment factor:NA Revised Unit Cost: NA Basis for adjustment:NA
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element	Skill	Department	Curve	Quantity	Units
750 STRAIGHT TIME BASE	S030 GEOLOGISTS	R100S RMRS Salaried	Linear	8.993.00	Hours
Factors	1564 Hours(Geologist)	5.75 YEARS			
A5H SUBCONTRACTED SRVS	0000 NONE	R100S RMRS Salaried	Linear	80.256.00	Dollars
Factors	17250 Dollars(Maintenance)	5.75 YEARS			

0.80913 [SYS 061500] .80704 - System

WBS No: 1HAD0502  
Activity ID: 1HAD5210P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	25.309.72	Dollars
Factors	5440	Dollars(Clerical)	5.75	YEARS				
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	144.344.50	Dollars
Factors	31025	Dollars(GIS)	5.75	YEARS				
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	S030	GEOLOGISTS	R100S	RMRS Salaried	Linear	145.903.10	Dollars
Factors	31360	Dollars(Geologist)	5.75	YEARS				
0.80913 [SYS 061500] .80704 - Svstem								
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	R100S	RMRS Salaried	Linear	7.331.25	Dollars
Factors	1275	Dollars	5.75	YEARS				

**Line Item 2 - RFCA Groundwater Evaluation**

**BOE**

Historical Data Source:WADLET 1103080401 actuals P&I Report dated 10/7/99								
Item Desc: RFCA Groundwater Evaluations are required under RFCA Action Level Framework Document where exceedances of groundwater Action Levels has been detected, and an impact to surface water is suspected. Evaluations involve field investigations, modeling and calculation of contaminant impact to surface water through groundwater. RFCA Groundwater Evaluations consist of work plan development, data assessment and field oversight, subcontract technician support for water levels, well sampling and well development and minor clerical support for documents.								
Breakdown of Historical Data: Item:750 Direct Annual Labor Units: lot Unit Cost: 840 Hours based on \$48/hr ave. rate R100S (Geologist) Item:A5H Annual Non-Labor Units: lot Unit Cost: \$220,141 Dollars based on FY00 RTG Subcontract proposal (Technicians) Units: lot Unit Cost: \$31,650 Dollars based on FY99 Tierra Subcontract cost, \$70/hr ave. rate (Geologist) Units: lot Unit Cost: \$3,203 Dollars based on FY99 ave Subcontract costs, \$30/hr ave. rate (Clerical)								
Unit Cost Adjustment factor:1.97 Revised Unit Cost: NA Basis for adjustment: Increasing scope on a backloaded cost curve due to compressed closure schedule through period of performance.								
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.								

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	S030	GEOLOGISTS	R100S	RMRS Salaried	Linear	4.111.25	Hours
Factors	715	Hours(Geologist)	5.75	YEARS				
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Back Loaded	870.575.30	Dollars
Factors	187119	Dollars(Field Techs)	5.75	YEARS				
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	12.668.82	Dollars
Factors	2723	Dollars(Clerical)	5.75	YEARS				
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	S030	GEOLOGISTS	R100S	RMRS Salaried	Linear	125.166.80	Dollars
Factors	26903	Dollars(Geoloqists)	5.75	YEARS				
0.80913 [SYS 061500] .80704 - Svstem								

**Line Item 3 - RFCA D&D Evaluation**

**BOE**

Historical Data Source:WADLET 1103080401 actuals P&I Report dated 10/7/99								
Item Desc:The Integrated Monitoring Plan, and the Decision Document and Implementation Plan for the Industrial Area IM/IRA were used as requirements for the activities covered in the D&D section of the cost estimate. The IM/IRA decision documents outline general monitoring activities for groundwater as each building cluster is demolished. The approach adopted here is that each major building would require the installation of 5 to 8 temporary well points. These well points would be installed two years prior to physical deactivation as specified in the Action Plan schedule. This allows for the collection of four quarterly samples prior to building D&D so as to establish baseline water quality.Scope includes 1.5 FTE of Geologist support for work plan development, well site and sample team oversight and subcontracted technician support sampling, water levels, shipping, HSS and data entry.								
Breakdown of Historical Data: based on actual cost from P & I reporting system Item:750 Direct Annual Labor Units: lot Unit Cost: 802 Hours based on \$48/hr ave. rate R100S (Geologist)								

WBS No: 1HAD0502  
Activity ID: 1HAD5210P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Item:A5H Annual Non-Labor  
Units: lot Unit Cost: \$259,916 Dollars based on RTG Subcontract proposal (Technicians)  
Units: lot Unit Cost: \$38,640 Dollars based on FY99 Tierra Subcontract cost, \$70/hr ave. rate (Geologist)

Unit Cost Adjustment factor: 1.9 Revised Unit Cost: NA  
Basis for adjustment: Increasing scope on a backloaded cost curve due to compressed closure schedule.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	S030	GEOLOGISTS	R100S RMRS Salaried	Linear	3.921.50	Hours
Factors	682	Hours(Geologist)	5.75	YEARS			
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S RMRS Salaried	Back Loaded	1.027.877.00	Dollars
Factors	220929	Dollars(Field Techs)	5.75	YEARS			
					0.80913	ISYS 0615001 .80704 - Svsstem	
A5H	SUBCONTRACTED SRVS	S030	GEOLOGISTS	R100S RMRS Salaried	Linear	152.807.40	Dollars
Factors	32844	Dollars(Geologist)	5.75	YEARS			
					0.80913	ISYS 0615001 .80704 - Svsstem	

**Line Item SYS - Contingency And Escalation**

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT No Department	Linear	531.480.00	Dollars
Factors	531480	Dollars					
ESC	ESCALATION	0000	NONE	ZDEPT No Department	Linear	284.404.00	Dollars
Factors	284404	Dollars					

Activity ID: 1HAD5220P2 Description: SW Analysis Modeling & Reporting

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Data Assessment & Reporting	1.00	each	HC	11.161	11.161	349.937	674.002	0	1,023.939	129.045	1,152.984
2	RFCA SW Evaluation	1.00	each	HC	1.316	1.316	40.734	73.673	0	114.407	15.021	129.429
3	Surface Water D&D Monitoring	1.00	each	HC	2.709	2.709	84.272	125.127	0	209.399	31.077	240.476
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	344.496	344.496	0	344.496
Total for Activity 1HAD5220P2:						15.186	474.943	872.803	344.496	1,692.242	175.144	1,867.386

**Line Item 1 - Data Assessment & Reporting**

BOE	
SW Data Assessment and Reporting - Estimate includes analytical data package and field data quality assessment, data analysis and interpretation, stakeholder and compliance reporting, RFCA Source Evaluations, and D&D Performance Monitoring.	
Historical Data Source - WADlet 1103060101 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System and WADlet manager cost performance tracking records were used as a basis for the current estimates.	
Item Desc - Labor, subcontracts, and ODCs supporting SW Data Assessment and Reporting.	
Breakdown of Historical Data - Actual FY99 direct and subcontract labor (2.4 FTEs) and ODCs in support of SW Data Assessment and Reporting.	
Average Annual Direct Labor: 2,234 Hours K-H Team Labor breakout by skill code: - environmental engineer (673 hrs/yr.), and - environmental scientist (1561 hrs/yr.).	
Average Annual Subcontract Cost: \$116,310 Subcontract breakout by type: - A53 \$69,016 for 0.56 FTEs of environmental engineer (estimated using \$45/hr. burdened),	

WBS No: 1HAD0502  
Activity ID: 1HAD5220P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

- A5H \$4,236 for 0.05 FTEs of quality control engineer (estimated using \$46/hr. burdened),  
- A5H \$6,400 for 0.14 FTEs of administrative assistant (estimated using \$46/hr. burdened),  
- A5H \$26,738 for 0.32 FTEs of GIS computer specialist (estimated using \$46/hr. burdened), and  
- A5H \$9,920 for 0.08 FTEs of WEB computer specialist (estimated using \$67/hr. burdened).

Average Annual ODC Costs: \$9,400  
ODC breakout by cost element:  
- A5C \$7,000 for upgrading 2 computer systems per year and data analysis software, and  
- A5M \$2,400 for technical training.

Unit Cost Adjustment factor:  
- Labor (242 hours) for data analysis and preparation of the DMR/predischarge approvals will be budgeted for by RFCSS (scope transferred),  
- A5M \$3,600 for technical training (added budget for each surface water monitoring team member to attend one technical training course per year valued at \$1,200 per course)

Revised Unit Cost  
- Labor(1319 hrs/yr.) for data analysis and reporting, and  
- A5M \$6,000/year.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	3,770.08	Hours
Factors	672.81 Hours (Env. Engineer)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	7,390.55	Hours
Factors	1318.92 Hours (Env. Scientist)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
A53	E-2	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	386.730.60	Dollars
Factors	69016.1 Dollars (sub. Env. Engr.)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
A5C	SUPPLIES	0000	NONE	R100S	RMRS Salaried	Linear	39,224.41	Dollars
Factors	7000 Dollars (special computer & software	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
A5H	SUBCONTRACTED SRVS	E110	QUALITY CONTROL ENGINEERS	R100S	RMRS Salaried	Linear	19,206.37	Dollars
Factors	4236.1 Dollars (Quality Cntrl. Engr.)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
0.80913 [SYS 061500] .80704 - System								
A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	29,015.07	Dollars
Factors	6399.48 Dollars (Admin. Assistant)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
0.80913 [SYS 061500] .80704 - System								
A5H	SUBCONTRACTED SRVS	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	44,977.02	Dollars
Factors	9920 Dollars (WEB computer specialist)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
0.80913 [SYS 061500] .80704 - System								
A5H	SUBCONTRACTED SRVS	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	121,228.10	Dollars
Factors	26737.7 Dollars (Computer Specialist)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
0.80913 [SYS 061500] .80704 - System								
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	R100S	RMRS Salaried	Linear	33,620.92	Dollars
Factors	6000 Dollars (technical traianing)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			

**Line Item 2 - RFCA SW Evaluation**

**BOE**

RFCA SW Evaluations - RFCA source evaluations includes source evaluation plan preparation, source investigation (including monitoring), data analysis and interpretation, report preparation, and stakeholder presentations.

Historical Data Source - WADLET 1103060101 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System, the WADlet manager cost performance tracking records supplemented with the WADlet managers FY00 cost estimate for subcontract labor to deploy and operate the automated synoptic sampling network for the GS10 source investigation were used as a basis for the current estimates. Analytical labs and sampling subcontractor costs for processing of synoptic samples and collection & analysis of sediment samples are included under the Surface Water Monitoring activity.

Item Desc - Labor, subcontracts and ODCs supporting RFCA Surface Water Source Evaluations.

Breakdown of Historical Data -  
Actual FY99 direct and subcontract labor (0.3 FTEs) and ODCs in support RFCA SW Evaluations.

WBS No: 1HAD0502  
Activity ID: 1HAD5220P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Average Annual Direct Labor: 235 Hours K-H Team  
Labor breakout by skill code:  
- 0.06 FTEs of environmental engineer (115 hrs/yr.), and  
- 0.06 FTEs of environmental scientist (120 hrs/yr.).

Average Annual Subcontract Cost: \$12,773  
Subcontract breakout by type:  
- A53 \$9,570 for 0.12 FTEs of environmental engineer (estimated using \$45/hr. burdened), and  
- A5H \$3,203 for 0.07 FTEs of administrative assistant (estimated using \$25/hr. burdened).

Average Annual ODC Costs: \$986  
ODC breakout by cost element:  
- A5C \$986 for supplies and publication of Source Evaluation Plans and Reports.

Unit Cost Adjustment factor: NA

Revised Unit Cost: NA

Basis for adjustment: NA

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE		E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	643.95	Hours
Factors	114.92	Hours (Env. Engineer)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
750	STRAIGHT TIME BASE		S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	672.42	Hours
Factors	120	Hours (Env. Scientist)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
A53	E-2		E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	53.625.65	Dollars
Factors	9570.05	Dollars (sub. Env. Engr.)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
A5C	SUPPLIES		0000	NONE	R100S	RMRS Salaried	Linear	5.523.92	Dollars
Factors	985.8	Dollars (SE report publication costs)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
A5H	SUBCONTRACTED SRVS		G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	14.523.72	Dollars
Factors	3203.31	Dollars (Admin. Assistant)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - Surface Water D&D Monitoring**

**BOE**

Surface Water D&D Monitoring - Estimate includes D&D schedule and plan review and dialogue with D&D project managers to determine requirements and guide the design and implementation of surface water D&D performance monitoring.

Historical Data Source - WADLET 1103060101 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System and WADlet manager cost performance tracking records were used as a basis for the current estimates.

Item Desc - Labor and subcontracts supporting Surface Water D&D Monitoring.

Breakdown of Historical Data -  
Actual FY99 direct and subcontract labor (0.53 FTEs) in support Surface Water D&D Monitoring.

Average Annual Direct Labor: 483 Hours K-H Team  
Labor breakout by skill code:  
- 0.11 FTEs of environmental engineer (206 hrs/yr.), and  
- 0.15 FTEs of environmental scientist (277 hrs/yr.).

Average Annual Subcontract Cost: \$22,330  
Subcontract breakout by type:  
- A53 \$22,330 for 0.27 FTEs environmental engineer (estimated using \$45/hr. burdened), and

Unit Cost Adjustment factor: NA

Revised Unit Cost: NA

Basis for adjustment: NA

WBS No: 1HAD0502  
Activity ID: 1HAD5220P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	1.155.38 Hours
Factors		206.19 Hours (Env. Engineer)	5.917 annual rate factor	0.94701 --- FY00 May Earned Value Factor			
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	1.553.12 Hours
Factors		277.17 Hours (Env. Scientist)	5.917 annual rate factor	0.94701 --- FY00 May Earned Value Factor			
A53	E-2	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	125.127.20 Dollars
Factors		22330.2 Dollars (sub. Env. Enar.)	5.917 annual rate factor	0.94701 --- FY00 May Earned Value Factor			

**Line Item SYS - Contingency And Escalation**

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	224.904.10 Dollars
Factors		224904 Dollars					
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	119.591.80 Dollars
Factors		119592 Dollars					

Activity ID: 1HXXX521P2 Description: GW Analysis Modelina & Reporting - FY06

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Data Assessment/Reporting	0.17	each		8.993	1.560	46.949	69.946	0	116.896	25.111	142.006
2	RFCA Groundwater Evaluation	0.17	each		4.111	713	21.463	174.961	0	196.424	11.480	207.904
3	RFCA D&D Evaluation	0.17	each		3.922	680	20.473	204.851	0	225.323	10.950	236.273
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	407.673	407.673	0	407.673
Total for Activity 1HXXX521P2:						2.954	88.886	449.758	407.673	946.316	47.540	993.856

**Line Item 1 - Data Assessment/Reporting**

BOE	<p>Historical Data Source: WADLET 1103080401 actuals P&amp;I Report dated 10/7/99</p> <p>Item Desc:</p> <p>Annual RFCA Reporting: An annual groundwater monitoring report is required under the RFCA Action Level Framework Addendum. This report must be submitted to the Colorado Department of Health (CDPHE) and Environmental Protection Agency (EPA) per the RFCA Interagency Agreement. This report discusses and interprets the hydrology and groundwater quality of the Site.</p> <p>Quarterly RFCA Reporting: Quarterly (based on calendar year) data assessments of groundwater quality at the Site are required by RFCA Action Level Framework. These assessments are used as an early-warning of changes in groundwater quality, and must be submitted to the Regulatory Agencies on a regular basis.</p> <p>RFCA Reporting requires 1.5 FTE of geologic support for data reduction, data assessment, report writing and SWD database support, subcontract support for GIS support, report production geologic log data entry.</p> <p>Breakdown of Historical Data: Item:750 Direct Annual Labor Units: lot Unit Cost: 1840 Hours based on \$48/hr ave. rate R100S (Geologist) Item:A5H Annual Non-Labor Units: lot Unit Cost: \$44,800 Dollars based on FY99 Tierra Subcontract cost, \$70/hr ave. rate (Geologist) Units: lot Unit Cost: \$51,664 Dollars based on FY00 Destiny Subcontract cost, \$68/hr Units: lot Unit Cost: \$6,400 Dollars based on FY99 ave Subcontract costs, \$30/hr ave. rate (Clerical) Units: lot Unit Cost: \$17,250 Dollars based on FY99 ave Subcontract costs, \$40/hr ave. rate (Software Maintenance) Item:A5M Non-Labor Units: lot Unit Cost: \$1,500 Dollars based on FY99 ave Training costs</p> <p>Unit Cost Adjustment factor:NA Revised Unit Cost: NA Basis for adjustment:NA</p> <p>This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.</p>
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	S030	GEOLOGISTS	R100S	RMRS Salaried	Linear	8.993.00 Hours
Factors		1564 Hours (Geoloaist)	5.75 YEARS				



WBS No: 1HAD0502  
Activity ID: 1HXXX521P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Linear	80.256.00	Dollars
Factors	17250	Dollars(Maintenance)	5.75	YEARS				
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	25.309.72	Dollars
Factors	5440	Dollars(Clerical)	5.75	YEARS				
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried	Linear	144.344.50	Dollars
Factors	31025	Dollars(GIS)	5.75	YEARS				
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	S030	GEOLOGISTS	R100S	RMRS Salaried	Linear	145.903.10	Dollars
Factors	31360	Dollars(Geologist	5.75	YEARS				
0.80913 [SYS 061500] .80704 - Svstem								
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	R100S	RMRS Salaried	Linear	7.331.25	Dollars
Factors	1275	Dollars	5.75	YEARS				

**Line Item 2 - RFCA Groundwater Evaluation**

**BOE**

Historical Data Source:WADLET 1103080401 actuals P&I Report dated 10/7/99								
Item Desc: RFCA Groundwater Evaluations are required under RFCA Action Level Framework Document where exceedances of groundwater Action Levels has been detected, and an impact to surface water is suspected. Evaluations involve field investigations, modeling and calculation of contaminant impact to surface water through groundwater. RFCA Groundwater Evaluations consist of work plan development, data assessment and field oversight, subcontract technician support for water levels, well sampling and well development and minor clerical support for documents.								
Breakdown of Historical Data: Item:750 Direct Annual Labor Units: lot Unit Cost: 840 Hours based on \$48/hr ave. rate R100S (Geologist) Item:A5H Annual Non-Labor Units: lot Unit Cost: \$220,141 Dollars based on FY00 RTG Subcontract proposal (Technicians) Units: lot Unit Cost: \$31,650 Dollars based on FY99 Tierra Subcontract cost, \$70/hr ave. rate (Geologist) Units: lot Unit Cost: \$3,203 Dollars based on FY99 ave Subcontract costs, \$30/hr ave. rate (Clerical)								
Unit Cost Adjustment factor:1.97 Revised Unit Cost: NA Basis for adjustment: Increasing scope on a backloaded cost curve due to compressed closure schedule through period of performance.								
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.								

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	S030	GEOLOGISTS	R100S	RMRS Salaried	Linear	4.111.25	Hours
Factors	715	Hours(Geologist)	5.75	YEARS				
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S	RMRS Salaried	Back Loaded	870.575.30	Dollars
Factors	187119	Dollars(Field Techs)	5.75	YEARS				
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	12.668.82	Dollars
Factors	2723	Dollars(Clerical)	5.75	YEARS				
0.80913 [SYS 061500] .80704 - Svstem								
A5H	SUBCONTRACTED SRVS	S030	GEOLOGISTS	R100S	RMRS Salaried	Linear	125.166.80	Dollars
Factors	26903	Dollars(Geologists)	5.75	YEARS				
0.80913 [SYS 061500] .80704 - Svstem								

**Line Item 3 - RFCA D&D Evaluation**

**BOE**

Historical Data Source:WADLET 1103080401 actuals P&I Report dated 10/7/99								
Item Desc:The Integrated Monitoring Plan, and the Decision Document and Implementation Plan for the Industrial Area IM/IRA were used as requirements for the activities covered in the D&D section of the cost estimate. The IM/IRA decision documents outline general monitoring activities for groundwater as each building cluster is demolished. The approach adopted here is that each major building would require the installation of 5 to 8 temporary well points. These well points would be installed two years prior to physical deactivation as specified in the Action Plan schedule. This allows for the collection of four quarterly samples prior to building D&D so as to establish baseline water quality.Scope includes 1.5 FTE of Geologist support for work plan development, well site and sample team oversight and subcontracted technician support sampling, water levels, shipping, HSS and data entry.								

WBS No: 1HAD0502  
Activity ID: 1HXXX521P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Breakdown of Historical Data: based on actual cost from P & I reporting system  
Item:750 Direct Annual Labor  
Units: lot Unit Cost: 802 Hours based on \$48/hr ave. rate R100S (Geologist)  
Item:A5H Annual Non-Labor  
Units: lot Unit Cost: \$259,916 Dollars based on RTG Subcontract proposal (Technicians)  
Units: lot Unit Cost: \$38,640 Dollars based on FY99 Tierra Subcontract cost, \$70/hr ave. rate (Geologist)

Unit Cost Adjustment factor: 1.9 Revised Unit Cost: NA  
Basis for adjustment: Increasing scope on a backloaded cost curve due to compressed closure schedule.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	S030	GEOLOGISTS	R100S RMRS Salaried	Linear	3,921.50	Hours
Factors	682	Hours(Geologist)	5.75	YEARS			
A5H	SUBCONTRACTED SRVS	0000	NONE	R100S RMRS Salaried	Back Loaded	1,027,877.00	Dollars
Factors	220929	Dollars(Field Techs)	5.75	YEARS			
A5H	SUBCONTRACTED SRVS	S030	GEOLOGISTS	R100S RMRS Salaried	Linear	152,807.40	Dollars
Factors	32844	Dollars(Geoloaist)	5.75	YEARS			
0.80913 [SYS 061500] .80704 - System							
0.80913 [SYS 061500] .80704 - Svsstem							

**Line Item SYS - Contingency And Escalation**

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT No Department	Linear	282,342.30	Dollars
Factors	282342	Dollars					
ESC	ESCALATION	0000	NONE	ZDEPT No Department	Linear	125,330.20	Dollars
Factors	125330	Dollars					

Activity ID: 1HXXX522P2 Description: SW Analysis Modeling & Reporting- FY06

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Data Assessment & Reporting	0.17	each	HC	11.161	1.936	60.715	116.940	0	177.655	32.473	210.128
2	RFCA SW Evaluation	0.17	each	HC	1.316	228	7.067	12.782	0	19.850	3.780	23.630
3	Surface Water D&D Monitoring	0.17	each	HC	2.709	470	14.621	21.710	0	36.331	7.820	44.151
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	194.220	194.220	0	194.220
Total for Activity 1HXXX522P2:						2.635	82.403	151.433	194.220	428.056	44.073	472.129

**Line Item 1 - Data Assessment & Reporting**

BOE	
SW Data Assessment and Reporting - Estimate includes analytical data package and field data quality assessment, data analysis and interpretation, stakeholder and compliance reporting, RFCA Source Evaluations, and D&D Performance Monitoring.	
Historical Data Source - WADlet 1103060101 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System and WADlet manager cost performance tracking records were used as a basis for the current estimates.	
Item Desc - Labor, subcontracts, and ODCs supporting SW Data Assessment and Reporting.	
Breakdown of Historical Data - Actual FY99 direct and subcontract labor (2.4 FTEs) and ODCs in support of SW Data Assessment and Reporting.	
Average Annual Direct Labor: 2,234 Hours K-H Team Labor breakout by skill code: - environmental engineer (673 hrs/yr.), and - environmental scientist (1561 hrs/yr.).	

WBS No: 1HAD0502  
Activity ID: 1HXXX522P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Average Annual Subcontract Cost: \$116,310

Subcontract breakout by type:

- A53 \$69,016 for 0.56 FTEs of environmental engineer (estimated using \$45/hr. burdened),
- A5H \$4,236 for 0.05 FTEs of quality control engineer (estimated using \$46/hr. burdened),
- A5H \$6,400 for 0.14 FTEs of administrative assistant (estimated using \$46/hr. burdened),
- A5H \$26,738 for 0.32 FTEs of GIS computer specialist (estimated using \$46/hr. burdened), and
- A5H \$9,920 for 0.08 FTEs of WEB computer specialist (estimated using \$67/hr. burdened).

Average Annual ODC Costs: \$9,400

ODC breakout by cost element:

- A5C \$7,000 for upgrading 2 computer systems per year and data analysis software, and
- A5M \$2,400 for technical training.

Unit Cost Adjustment factor:

- Labor (242 hours) for data analysis and preparation of the DMR/predischarge approvals will be budgeted for by RFCSS (scope transferred),
- A5M \$3,600 for technical training (added budget for each surface water monitoring team member to attend one technical training course per year valued at \$1,200 per course)

Revised Unit Cost

- Labor(1319 hrs/yr.) for data analysis and reporting, and
- A5M \$6,000/year.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element			Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried		Linear	3.770.08	Hours
Factors	672.81	Hours (Env. Engineer)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried		Linear	7.390.55	Hours
Factors	1318.92	Hours (Env. Scientist)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
A53	E-2	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried		Linear	386.730.60	Dollars
Factors	69016.1	Dollars (sub. Env. Engr.)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
A5C	SUPPLIES	0000	NONE	R100S	RMRS Salaried		Linear	39.224.41	Dollars
Factors	7000	Dollars (special computer & software)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
A5H	SUBCONTRACTED SRVS	E110	QUALITY CONTROL ENGINEERS	R100S	RMRS Salaried		Linear	19.206.37	Dollars
Factors	4236.1	Dollars (Quality Cntrl. Engr.)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
0.80913 ISYS 0615001.80704 - System									
A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried		Linear	29.015.07	Dollars
Factors	6399.48	Dollars (Admin. Assistant)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
0.80913 ISYS 0615001.80704 - System									
A5H	SUBCONTRACTED SRVS	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried		Linear	44.977.02	Dollars
Factors	9920	Dollars (WEB computer specialist)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
0.80913 ISYS 0615001.80704 - System									
A5H	SUBCONTRACTED SRVS	P060	COMPUTER SYSTEMS ANALYSTS	R100S	RMRS Salaried		Linear	121.228.10	Dollars
Factors	26737.7	Dollars (Computer Specialist)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
0.80913 ISYS 0615001.80704 - System									
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	R100S	RMRS Salaried		Linear	33.620.92	Dollars
Factors	6000	Dollars (technical traianing)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			

**Line Item 2 - RFCA SW Evaluation**

**BOE**

RFCA SW Evaluations - RFCA source evaluations includes source evaluation plan preparation, source investigation (including monitoring), data analysis and interpretation, report preparation, and stakeholder presentations.

Historical Data Source - WADLET 1103060101 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System, the WADlet manager cost performance tracking records supplemented with the WADlet managers FY00 cost estimate for subcontract labor to deploy and operate the automated synoptic sampling network for the GS10 source investigation were used as a basis for the current estimates. Analytical labs and sampling subcontractor costs for processing of synoptic samples and collection & analysis of sediment samples are included under the Surface Water Monitoring activity.

Item Desc - Labor, subcontracts and ODCs supporting RFCA Surface Water Source Evaluations.

WBS No: 1HAD0502  
Activity ID: 1HXXX522P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Breakdown of Historical Data -  
Actual FY99 direct and subcontract labor (0.3 FTEs) and ODCs in support RFCA SW Evaluations.

Average Annual Direct Labor: 235 Hours K-H Team  
Labor breakout by skill code:  
- 0.06 FTEs of environmental engineer (115 hrs/yr.), and  
- 0.06 FTEs of environmental scientist (120 hrs/yr.).

Average Annual Subcontract Cost: \$12,773  
Subcontract breakout by type:  
- A53 \$9,570 for 0.12 FTEs of environmental engineer (estimated using \$45/hr. burdened), and  
- A5H \$3,203 for 0.07 FTEs of administrative assistant (estimated using \$25/hr. burdened).

Average Annual ODC Costs: \$986  
ODC breakout by cost element:  
- A5C \$986 for supplies and publication of Source Evaluation Plans and Reports.

Unit Cost Adjustment factor: NA

Revised Unit Cost: NA

Basis for adjustment: NA

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	643.95	Hours
Factors	114.92	Hours (Env. Engineer)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
	750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	672.42	Hours
Factors	120	Hours (Env. Scientist)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
	A53	E-2	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	53.625.65	Dollars
Factors	9570.05	Dollars (sub. Env. Engr.)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
	A5C	SUPPLIES	0000	NONE	R100S	RMRS Salaried	Linear	5.523.92	Dollars
Factors	985.8	Dollars (SE report publication costs)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			
	A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	14.523.72	Dollars
Factors	3203.31	Dollars (Admin. Assistant)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor			

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - Surface Water D&D Monitoring**

BOE	<p>Surface Water D&amp;D Monitoring - Estimate includes D&amp;D schedule and plan review and dialogue with D&amp;D project managers to determine requirements and guide the design and implementation of surface water D&amp;D performance monitoring.</p> <p>Historical Data Source - WADLET 1103060101 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System and WADlet manager cost performance tracking records were used as a basis for the current estimates.</p> <p>Item Desc - Labor and subcontracts supporting Surface Water D&amp;D Monitoring.</p> <p>Breakdown of Historical Data - Actual FY99 direct and subcontract labor (0.53 FTEs) in support Surface Water D&amp;D Monitoring.</p> <p>Average Annual Direct Labor: 483 Hours K-H Team Labor breakout by skill code: - 0.11 FTEs of environmental engineer (206 hrs/yr.), and - 0.15 FTEs of environmental scientist (277 hrs/yr.).</p> <p>Average Annual Subcontract Cost: \$22,330 Subcontract breakout by type: - A53 \$22,330 for 0.27 FTEs environmental engineer (estimated using \$45/hr. burdened), and</p> <p>Unit Cost Adjustment factor: NA</p>
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WBS No: 1HAD0502  
Activity ID: 1HXXX522P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \* Starts In FY \*

Revised Unit Cost: NA  
Basis for adjustment: NA

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	1.155.38 Hours
Factors	206.19	Hours (Env. Engineer)	5.917	annual rate factor	0.94701	--- FY00 Max Earned Value Factor	
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	1.553.12 Hours
Factors	277.17	Hours (Env. Scientist)	5.917	annual rate factor	0.94701	--- FY00 Max Earned Value Factor	
A53	E-2	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	125.127.20 Dollars
Factors	22330.2	Dollars (sub. Env. Engr.)	5.917	annual rate factor	0.94701	--- FY00 Max Earned Value Factor	

**Line Item SYS - Contingency And Escalation**

**BOE**

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	134.715.80 Dollars
Factors	134716	Dollars					
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	59.503.79 Dollars
Factors	59503.8	Dollars					

WBS No: 1HAD0503 Title: Compliance Support

Activity ID: 1HAD5310P2 Description: RFCA / IMP Water Compliance

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	RFCA/IMP Compliance Support	1.00	each	VQ	9.682	9.682	349.835	147.712	0	497.547	129.008	626.555
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	140.282	140.282	0	140.282
Total for Activity 1HAD5310P2:						9.682	349.835	147.712	140.282	637.830	129.008	766.837

**Line Item 1 - RFCA/IMP Compliance Support**

**BOE**

This estimate includes the project management support necessary to support the RFCA compliance function for groundwater and surface water. The Activity covers line management, support organizations and incidental supplies. Also covered is scope associated with the Integrated Monitoring Plan (IMP) for surface and groundwater. The IMP integrates all monitoring programs on Site and provides guidance for future monitoring activities. This task covers the review and update of the surface water and groundwater portion of the IMP and associated meetings and negotiations.

Historical Data Source - WADLETs 1103060101 and 1103080401 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System and WADlet manager cost performance tracking records were used as a basis for the current estimates.

Item Desc: RFCA compliance support requires .5 FTE of line management support for Water Programs Group and .1 FTE for Rad Engineering, Health and Safety and technical support, Subcontracted clerical, document and QA support and subcontracted technical support

Historical Data Source: WADLET 1103060101 and 1103080401 actuals P&I Report dated 10/7/99 and Historic cost estimate from groundwater monitoring subcontractor.

Breakdown of Historical Data:  
Item:750 Direct Annual Labor  
Units: lot Unit Cost: 185 Hours based on \$48/hr ave. rate R100S (Health and Safety)  
Units: lot Unit Cost: 72 Hours based on \$48/hr ave. rate R100S (Env. Eng.)  
Units: lot Unit Cost: 185 Hours based on \$48/hr ave. rate R100S (Rad. engineering)  
Units: lot Unit Cost: 918 Hours based on \$48/hr ave. rate R100S (Lead)  
Units: lot Unit Cost: 368 Hours based on \$48/hr ave. rate R100S (Env. Sci.)

Item:A5H Annual Non-Labor  
Units: lot Unit Cost: \$4088 Dollars based on FY97 R100S RMRS HQ cost, \$30/hr ave. rate (Clerical)  
Units: lot Unit Cost: \$8,530 Dollars based on R100S RMRS HQ cost, \$48 ave rate(Documents)  
Units: lot Unit Cost: \$16,255 Dollars based on R100S RMRS HQ cost, \$48 ave rate(QA)

Item:A5M annual Non-Labor  
Units: lot Unit Cost: \$3,000 Dollars based on FY99 ave for (2)offsite Training costs @\$1500/training

Unit Cost Adjustment factor: 1.0 Revised Unit Cost: NA

WBS No: 1HAD0503  
Activity ID: 1HAD5310P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \* Starts In FY \*

Basis for adjustment: NA

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	403.43	Hours
Factors	72	Hours(Env. Eng.)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
	750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	R100S	RMRS Salaried	Linear	1.036.59	Hours
Factors	185	Hours(Rad Eng.)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
	750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	R100S	RMRS Salaried	Linear	1.036.59	Hours
Factors	185	Hours(H&S)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
	750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	5.143.74	Hours
Factors	918	Hours(Lead)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
	750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	2.061.98	Hours
Factors	368	Hours(Env. Sci.)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
	A5H	SUBCONTRACTED SRVS	E110	QUALITY CONTROL ENGINEERS	R100S	RMRS Salaried	Linear	73.696.00	Dollars
Factors	16255	Dollars(QA)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
	A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	18.533.94	Dollars
Factors	4088	Dollars(Clerical)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
	A5H	SUBCONTRACTED SRVS	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	38.672.83	Dollars
Factors	8530	Dollars/Documents)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
	A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	R100S	RMRS Salaried	Front Loaded	16.809.61	Dollars
Factors	3000	Dollars(Training)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			

**Line Item SYS - Contingency And Escalation**

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	91.650.63	Dollars
Factors	91650.6	Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	48.631.68	Dollars
Factors	48631.7	Dollars							

Activity ID: 1HAD5320P2 Description: Clean Water Act Compliance

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Clean Water Act Compliance Support	1.00	each	HC	9.915	9.915	365.593	57.202	0	422.796	134.819	557.614
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	125.084	125.084	0	125.084
Total for Activity 1HAD5320P2:						9.915	365.593	57.202	125.084	547.880	134.819	682.699

**Line Item 1 - Clean Water Act Compliance Support**

BOE	<p>Clean Water Act Compliance Support - Estimate includes program management, line management, and regulatory support to ensure surface water monitoring and reporting programs are conducted in compliance with applicable Site agreements, regulations, and statutes.</p> <p>Historical Data Source - WADlet 11030604 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System and WADlet manager cost performance tracking records were used as a basis for the current estimates.</p> <p>Item Desc - Labor, subcontracts and ODCs supporting Clean Water Act Compliance support.</p> <p>Breakdown of Historical Data - Actual FY99 direct and subcontract labor (1.24 FTEs) in support of Clean Water Act Compliance.</p> <p>Average Annual Direct Labor: 1,770 Hours K-H Team Labor breakout by skill code: - line management (1034 hrs/yr.), - environmental scientist (83 hrs/yr.), and - regulatory specialist (653 hrs/yr.).</p>
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WBS No: 1HAD0503  
Activity ID: 1HAD5320P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Average Annual Subcontract Cost: \$12,616  
Subcontract breakout by type:  
- A5H \$4,088 for 0.09 FTEs of administrative assistant (estimated using \$25/hr. burdened), and  
- A5H \$8,528 for 0.19 FTEs of document control specialist (estimated using \$25/hr. burdened).

Unit Cost Adjustment factor - NA

Revised Unit Cost - NA

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	5,794.79	Hours
Factors	1034.14	Hours (Line Manager)	5.917	annual rate factor	0.94701	--- FY00 Mav Earned Value Factor			
	750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	462.12	Hours
Factors	82.47	Hours (Env. Scientist)	5.917	annual rate factor	0.94701	--- FY00 Mav Earned Value Factor			
	750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	3,658.35	Hours
Factors	652.87	Hours (Req. Specialist)	5.917	annual rate factor	0.94701	--- FY00 Mav Earned Value Factor			
	A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	18,535.11	Dollars
Factors	4088.05	Dollars (Admin. Assistant)	5.917	annual cost factor	0.94701	--- FY00 Mav Earned Value Factor			
	A5H	SUBCONTRACTED SRVS	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	38,667.13	Dollars
Factors	8528.31	Dollars (Doc. Cntrl. Specialist)	5.917	annual cost factor	0.94701	--- FY00 Mav Earned Value Factor			
							0.80913	[SYS 061500] .80704 - System	
									0.80913 [SYS 061500] .80704 - System

**Line Item SYS - Contingency And Escalation**

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	81,734.27	Dollars
Factors	81734.3	Dollars							
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	43,350.21	Dollars
Factors	43350.2	Dollars							

Activity ID: 1HXXX531P2 Description: RFCA / IMP Water Compliance - FY06

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	RFCA/IMP Compliance Support	0.17	each	VQ	9,682	1,680	60,697	25,628	0	86,325	32,463	118,789
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	81,342	81,342	0	81,342
Total for Activity 1HXXX531P2:						1,680	60,697	25,628	81,342	167,667	32,463	200,130

**Line Item 1 - RFCA/IMP Compliance Support**

BOE	<p>This estimate includes the project management support necessary to support the RFCA compliance function for groundwater and surface water. The Activity covers line management, support organizations and incidental supplies. Also covered is scope associated with the Integrated Monitoring Plan (IMP) for surface and groundwater. The IMP integrates all monitoring programs on Site and provides guidance for future monitoring activities. This task covers the review and update of the surface water and groundwater portion of the IMP and associated meetings and negotiations.</p> <p>Historical Data Source - WADLETs 1103060101 and 1103080401 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System and WADlet manager cost performance tracking records were used as a basis for the current estimates.</p> <p>Item Desc: RFCA compliance support requires .5 FTE of line management support for Water Programs Group and .1 FTE for Rad Engineering, Health and Safety and technical support, Subcontracted clerical, document and QA support and subcontracted technical support</p> <p>Historical Data Source: WADLET 1103060101 and 1103080401 actuals P&amp;I Report dated 10/7/99 and Historic cost estimate from groundwater monitoring subcontractor.</p> <p>Breakdown of Historical Data: Item:750 Direct Annual Labor Units: lot Unit Cost: 185 Hours based on \$48/hr ave. rate R100S (Health and Safety) Units: lot Unit Cost: 72 Hours based on \$48/hr ave. rate R100S (Env. Eng.) Units: lot Unit Cost: 185 Hours based on \$48/hr ave. rate R100S (Rad. engineering)</p>
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WBS No: 1HAD0503  
Activity ID: 1HXXX531P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Units: lot Unit Cost: 918 Hours based on \$48/hr ave. rate R100S (Lead)  
Units: lot Unit Cost: 368 Hours based on \$48/hr ave. rate R100S (Env. Sci.)  
  
Item:A5H Annual Non-Labor  
Units: lot Unit Cost: \$4088 Dollars based on FY97 R100S RMRS HQ cost, \$30/hr ave. rate (Clerical)  
Units: lot Unit Cost: \$8,530 Dollars based on R100S RMRS HQ cost, \$48 ave rate(Documents)  
Units: lot Unit Cost: \$16,255 Dollars based on R100S RMRS HQ cost, \$48 ave rate(QA)  
  
Item:A5M annual Non-Labor  
Units: lot Unit Cost: \$3,000 Dollars based on FY99 ave for (2)offsite Training costs @\$1500/training  
  
Unit Cost Adjustment factor: 1.0 Revised Unit Cost: NA  
Basis for adjustment: NA  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	E050	ENVIRONMENTAL ENGINEERS	R100S	RMRS Salaried	Linear	403.43	Hours
Factors	72 Hours(Env. Eng.)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
750	STRAIGHT TIME BASE	E080	NUCLEAR (CRITICALITY) ENGINEER	R100S	RMRS Salaried	Linear	1,036.59	Hours
Factors	185 Hours(Rad Eng.)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
750	STRAIGHT TIME BASE	E120	SAFETY ENGINEERS	R100S	RMRS Salaried	Linear	1,036.59	Hours
Factors	185 Hours(H&S)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	5,143.74	Hours
Factors	918 Hours(Lead)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	2,061.98	Hours
Factors	368 Hours(Env. Sci.)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
A5H	SUBCONTRACTED SRVS	E110	QUALITY CONTROL ENGINEERS	R100S	RMRS Salaried	Linear	73,696.00	Dollars
Factors	16255 Dollars(QA)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
0.80913 - ISYS 0615001 .80704 - System								
A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	18,533.94	Dollars
Factors	4088 Dollars(Clerical)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
0.80913 - ISYS 0615001 .80704 - System								
A5H	SUBCONTRACTED SRVS	P170	OTHER ADMINISTRATIVE & PROFE	R100S	RMRS Salaried	Linear	38,672.83	Dollars
Factors	8530 Dollars(Documents)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			
0.80913 - ISYS 0615001 .80704 - System								
A5M	TRAVEL/TRAIN/RELOCAT	0000	NONE	R100S	RMRS Salaried	Front Loaded	16,809.61	Dollars
Factors	3000 Dollars(Training)	5.9167	Annual Rate Factor	0.94701	--- FY00 May Earned Value Factor			

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	56,058.25	Dollars
Factors	56058.3 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	25,283.30	Dollars
Factors	25283.3 Dollars							

Activity ID: 1HXXX532P2 Description: Clean Water Act Compliance - FY06

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Clean Water Act Compliance Support	0.17	each	HC	9.915	1.720	63.431	9.925	0	73.356	33.926	107.281
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	72.810	72.810	0	72.810
Total for Activity 1HXXX532P2:						1.720	63.431	9.925	72.810	146.165	33.926	180.091

**Line Item 1 - Clean Water Act Compliance Support**

**BOE**

Clean Water Act Compliance Support - Estimate includes program management, line management, and regulatory support to ensure surface water monitoring and reporting programs are conducted in compliance with applicable Site agreements, regulations, and statutes.

WBS No: 1HAD0503  
Activity ID: 1HXXX532P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Historical Data Source - WADlet 11030604 actuals charged for FY99 accessible through the Site's Joshua Project Management Reporting System and WADlet manager cost performance tracking records were used as a basis for the current estimates.

Item Desc - Labor, subcontracts and ODCs supporting Clean Water Act Compliance support.

Breakdown of Historical Data -  
Actual FY99 direct and subcontract labor (1.24 FTEs) in support of Clean Water Act Compliance.

Average Annual Direct Labor: 1,770 Hours K-H Team

Labor breakout by skill code:  
- line management (1034 hrs/yr.),  
- environmental scientist (83 hrs/yr.), and  
- regulatory specialist (653 hrs/yr.).

Average Annual Subcontract Cost: \$12,616

Subcontract breakout by type:  
- A5H \$4,088 for 0.09 FTEs of administrative assistant (estimated using \$25/hr. burdened), and  
- A5H \$8,528 for 0.19 FTEs of document control specialist (estimated using \$25/hr. burdened).

Unit Cost Adjustment factor - NA

Revised Unit Cost - NA

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	M040	MANAGERS (GRADE 64 - 68)	R100S	RMRS Salaried	Linear	5.794.79	Hours
Factors	1034.14	Hours (Line Manager)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor		
750	STRAIGHT TIME BASE	S020	ENVIRONMENTAL SCIENTISTS	R100S	RMRS Salaried	Linear	462.12	Hours
Factors	82.47	Hours (Env. Scientist)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor		
750	STRAIGHT TIME BASE	S090	OTHER SCIENTISTS	R100S	RMRS Salaried	Linear	3.658.35	Hours
Factors	652.87	Hours (Reg. Specialist)	5.917	annual rate factor	0.94701	--- FY00 May Earned Value Factor		
A5H	SUBCONTRACTED SRVS	G010	ADMINISTRATIVE ASSISTANTS	R100S	RMRS Salaried	Linear	18.535.11	Dollars
Factors	4088.05	Dollars (Admin. Assistant)	5.917	annual cost factor	0.94701	--- FY00 May Earned Value Factor		
						0.80913 [SYS 061500] .80704 - System		
A5H	SUBCONTRACTED SRVS	P170	OTHER ADMINISTRATIVE & PROFF	R100S	RMRS Salaried	Linear	38.667.13	Dollars
Factors	8528.31	Dollars (Doc. Cntrl. Specialist)	5.917	annual cost factor	0.94701	--- FY00 May Earned Value Factor		
						0.80913 [SYS 061500] .80704 - System		

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	50.034.35	Dollars
Factors	50034.4	Dollars						
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	22.775.35	Dollars
Factors	22775.4	Dollars						

WBS No: 1HAD0601 Title: Monitoring  
Activity ID: 1HAD6110P2 Description: Effluent Air Monitoring

Line Item		Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1		RCT support Effluent Monitor - Filter Echas	1.00	each	HC	11.180	11.180	231.993	0	0	231.993	81.238	313.231
2		Metrology/flow profiles	1.00	each	VQ	0	0	0	11.328	0	11.328	0	11.328
3		Analytical & Shipping	1.00	each	VQ	0	0	0	306.505	0	306.505	0	306.505
4		TNU	1.00	each	VQ	0	0	0	164.244	0	164.244	0	164.244
5		Equip. Filters/Bottles. Supplies	1.00	each	VQ	0	0	0	19.572	0	19.572	0	19.572
6		Vehicle Lease	1.00	each	VQ	0	0	0	16.667	0	16.667	0	16.667
7		Radian labor to coordinate effluent activities	1.00	each	VQ	0	0	0	171.643	0	171.643	0	171.643

WBS No: 1HAD0601  
Activity ID: 1HAD6110P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

8	Special Projects	1.00	each	VQ	0	0	0	34.482	0	34.482	0	34.482
9	filter storage and disposal fees	1.00	each	VQ	0	0	0	6.896	0	6.896	0	6.896
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	204.902	204.902	0	204.902
Total for Activity 1HAD6110P2:					11.180	231.993	731.338	204.902	1.168.234	81.238	1.249.472	

**Line Item 1 - RCT support Effluent Monitor - Filter Echgs**

**BOE**

RCT support of Effluent air monitor filter exchanges.

Historical Data Source - P&I Reporting System Mar., Detailed Spending Variance Report and labor reports for WBS element 1.1.08.04.01.01, Breakdown of Historical Data: Labor hours equate to 1.1 FTE's per month average

Item Desc - Exchange of effluent air monitor filters

Item - RCT labor hours

Units - hours per month average

Unit Cost - averaged 170 hours per month

Current estimate was based on 1.1 FTE @ and average of 154 available hours per month (1850 hrs per year/12 months) to the end of closure 12/15/05. No change from current requirements supports same level of effort

Effluent Monitoring Systems Support: Includes 1) RCT hours to exchange filters and tritium bubblers, as well as determine maintenance requirements for samplers, 2) once per year flow profiling of significant samplers by Metrology, 3) lease of 1 vehicle. 4) filters, bottles, and other sampling supplies, and 5) Radian hours to manage filter/bubbler exchanges, lab analyses, database uploads, and QA/QC of data. 6) analytical, shipping, compositing, and gross alpha/beta, and special projects analytical costs

- RCT time based on 2080 hours per year plus an additional 80 hours to cover training of backup RCT at \$22/hr.

- Assume 120 hrs for flow profiles, at \$22/hr.

-Supplies and vehicle lease at 8/12 of base cost.

- Radian cost based on original FY00 baseline BOE less spent through January less \$20k moved to compliance/permitting and ambient/met.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
750	STRAIGHT TIME BASE	T050	RADIATION CONTROL TECHNOLOGI	KH10H	EESH&Q Steelworkers	Triangular	11.180.40	Hours
Factors	154	hours per month (1850/12)	1.1	fte per month	66	months		

**Line Item 2 - Metrology/flow profiles**

**BOE**

Technical subcontracted services for the scheduled maintenance

Vendor Name - Radian

Vendor Quote - per subcontract 900654

Quote Received by - KH procurement

Date Received - for FY00 contract mod

Item being quoted - subcontractor labor hours

Other Info - time and material subcontract

Availability - Radian internal historical data

The following supports this line item as well as the remaining line items for Effluent Monitoring Systems Support: Includes 1) RCT hours to exchange filters and tritium bubblers, as well as determine maintenance requirements for samplers, 2) once per year flow profiling of significant samplers by Metrology, 3) lease of 1 vehicle. 4) filters, bottles, and other sampling supplies, and 5) Radian hours to manage filter/bubbler exchanges, lab analyses, database uploads, and QA/QC of data. 6) analytical, shipping, compositing, and gross alpha/beta, and special projects analytical costs

- Per Radian vendor quote (based on their internal hisorical data) Assume 120 hrs for flow profiles, at \$22/hr.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	11.328.42	Dollars
Factors	120	hours per year	22	dollars per hour	5.6	years	0.94701 --- FY00 May Earned Value Factor	

0.80913 ISYS 0615001 .80704 - System

**Line Item 3 - Analytical & Shipping**

**BOE**

Vendor Name - Radian

Vendor Quote - per subcontract 900654

Quote Received by - KH procurement

Date Received - FY00 contract Mod

Item being quoted - subcontractor labor hours and laboratory costs

Other Info - Quote based on cost incurred by subcontractor in FY99 and FY00. Supported by KH analytical database tracking system

Availability - Radian internal historical documentation and KH Analytical services actual costs

WBS No: 1HAD0601  
Activity ID: 1HAD6110P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	306.504.90	Dollars
Factors	400000 dollars		0.94701 --- FY00 May Earned Value Factor				0.80913 [SYS 061500] .80704 - System		

**Line Item 4 - TNU**

BOE

Vendor Name - Radian International

Vendor Quote - for TNU Thermal Nutech analytical support subcontract KH700093

Quote Received by - KH procurement

Item being quoted - Technical subcontracted services for the analysis of sample provide to subcontractor

Other Info: Quote based on data provided by Radian from internal historical costs data and KH analytical services database and actual historical costs from subcontractor. Current subcontract and quantities shipped in FY99 and FY00 were used by Radian as a baseline for outyear estimates.

Availability - Radian internal historical documentation

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	164.244.50	Dollars

Factors

214345 dollars

0.94701 --- FY00 May Earned Value Factor

0.80913 [SYS 061500] .80704 - System

**Line Item 5 - Equip, Filters/Bottles, Supplies**

BOE

Vendor Name - Radian  
Vendor Quote - based on subcontract 900654 and actual cost incurred by subcontractor  
Quote Received by - KH procurement  
Date Received - FY 00 contract Mod  
Item being quoted - ODC (field equipment and expendible supplies  
Other Info - actual cost for FY99 and FY00 incurred by subcontractor were basis of this estimate  
Availability - Radian internal historical cost and and KH procurement invoices from subcontractor

Resources

Cost Element			Skill		Department		Curve	Quantity	Units
A5C	SUPPLIES		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	19.571.96	Dollars
Factors	20667	dollars	0.94701 --- FY00 May Earned Value Factor						

**Line Item 6 - Vehicle Lease**

BOE Vendor Name - Radian Vendor Quote - Radian subcontract 900654 Quote Received by - KH program Manager for compliance Date Received - FY 00 contract Mod Item being quoted - vehicle lease Other Info - field support vehicles. Cost based on previous annual costs for vehicle lease and maintenance (FY99 3200 per vehicle annual cost per P&I reporting system) WBS 1108040101 and 1108040102 Availability - Radian internal historical data and actuals from K-H P&I reporting system											
Resources		Cost Element	Skill		Department		Curve	Quantity	Units		
		A5L	RENTALS		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	16.667.46	Dollars
Factors		3200 per vehicle per year		1 vehicles		5.5 years		0.94701 --- FY00 May Earned Value Factor			

**Line Item 7 - Radian labor to coordinate effluent activities**

BOE Vendor Name - Radian Vendor Quote - per Radian subcontract 900654 Quote Received by - KH procurement Date Received - FY 00 contract Mod Item being quoted - Radian direct labor support for effluent monitoring activities Other Info - Provided by Radian as summary from detailed matrix of labor categories and rates. An average rate was established from Radian internal historical data for labor categories used in support of the effluent monitoring activities. This composite rate was then applied to the project labor hours estimated by Radian Project Manager to be required to support the closure program thru 12/15/05. Availability - Radian internal historical data and KH procurement  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.											
Resources		Cost Element	Skill		Department		Curve	Quantity	Units		

WBS No: 1HAD0601  
Activity ID: 1HAD6110P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	171.642.70	Dollars
Factors	224000 dollars	0.94701	---	FY00	May Earned Value Factor			

0.80913 [SYS 061500] .80704 - System

**Line Item 8 - Special Projects**

BOE	Vendor Name - Radian Vendor Quote - subcontract 900654 Quote Received by - KH procurement Date Received - FY 00 contract mod Item being quoted - special project Radian support Other Info - based on previous experience in like projects. Current effluent program has historically encountered two or more special projects each fiscal year. Most of the time these special projects are within scope of the contract but not specifically budgeted in baseline plan. This line item is intended to cover these undefined special projects for FY 00 and 01. Availability - Radian internal historical data and KH procurement invoices  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.							
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Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	34.481.80	Dollars
	Factors	45000 dollars		0.94701 --- FY00 May Earned Value Factor						

0.80913 [SYS 061500] .80704 - System

**Line Item 9 - filter storage and disposal fees**

BOE	Vendor Name - Radian Vendor Quote - Radian and Radian subs Quote Received by - Radian, Air programs project office Date Received - 4-2-00 Item being quoted - subcontractor fees for disposal Other Info - based on subcontractor costs passed on to Radian from historical data and new verbal quotes from their subcontractors Availability - Radian internal cost estimating  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.							
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Resources	Cost Element			Skill		Department		Curve	Quantity	Units	
	A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance		Front Loaded	6.896.36	Dollars
	Factors	2000	dollars per year	4.5	years	0.94701	--- FY00 May Earned Value Factor				

0.80913 [SYS 061500] .80704 - System

**Line Item SYS - Contingency And Escalation**

BOE										
Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	133.333.00	Dollars
	Factors 133333 Dollars									
	ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	71.569.13	Dollars
	Factors 71569.1 Dollars									

Activity ID: 1HAD6120P2 Description: Ambient Air Monitoring

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	MERCO	1.00	ea	VQ	0	0	0	522.943	0	522.943	0	522.943
2	Analytical & Shipping	1.00	ea	VQ	0	0	0	686.571	0	686.571	0	686.571
3	Equipment & Supplies. spare parts	1.00	ea	VQ	0	0	0	31.736	0	31.736	0	31.736
4	vehicle lease	1.00	ea	HC	0	0	0	18.183	0	18.183	0	18.183
5	Radian labor to coordinate activities. maint. Reco	1.00	ea	VQ	0	0	0	289.917	0	289.917	0	289.917
6	Special projects	1.00	ea	VQ	0	0	0	90.794	0	90.794	0	90.794
7	Ambient Sampler Removal	1.00	each	VQ	0	0	0	25.025	0	25.025	0	25.025
8	filter storage and disposal fees	1.00	ea	VQ	0	0	0	8.429	0	8.429	0	8.429
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	368.039	368.039	0	368.039
Total for Activity 1HAD6120P2:						0	0	1.673.597	368.039	2,041.636	0	2,041.636

WBS No: 1HAD0601  
Activity ID: 1HAD6120P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

**Line Item 1 - MERCO**

**BOE**

Vendor Name - Radian International  
Vendor Quote - per subcontract KH900654  
Quote Received by - C.A.Patnoe, (Subcontract KH900654) FY00 and 01 used as basis for outyears  
Item being quoted - Technical subcontracted services  
Availability - Radian internal cost estimating and historical costs

Ambient Monitoring: Includes 1) MERCO hours to maintain RAAMPs, exchange filter cartridges, and perform RAAMP calibrations, 2) spare parts and supplies for RAAMPs, 3) 1 vehicle lease, 4) Radian hours to manage RAAMP exchanges, calibration, maintenance, lab analyses, data upload, and QA/QC, 5) independent audit of met towers (usually performed in May), 6) analytical, shipping, loading/unloading cartridges, validation, and verification, and 7) analytical costs for special projects.

- MERCO hours represent FY00 estimated LOE plus an additional 5%, assuming more project monitoring.
- Spare parts, supplies, and vehicle lease use FY00 estimate.
- Radian hours based on FY98-00 actual LOE.
- Analytical etc. costs from J. Euler spreadsheet. Uses FY00 cost per analysis and CY01 number of analyses (typical 12-month period).
- Special project costs assumes 903 Pad remediation will be performed sometime during FY01 through FY03. Spread evenly across years. cost is 20% of unloading/loading and punch and count costs. See J. Euler spreadsheet.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Front Loaded	522.942.50	Dollars

Factors 682459 dollars (Merco) 0.94701 --- FY00 May Earned Value Factor

0.80913 [SYS 061500] .80704 - System

**Line Item 2 - Analytical & Shipping**

**BOE**

Vendor Name - Radian International  
Vendor Quote - \$1,008,436  
Quote Received by - C.A.Patnoe, (Subcontract KH900654) FY00 and 01 used as basis for outyears. Revised quote updated for current rebaseline exercise  
Item being quoted - technical services  
Availability - generally available, quotes available from Radian project office and K-H analytical database.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Linear	686.570.90	Dollars

Factors 896000 dollars 0.94701 --- FY00 May Earned Value Factor

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - Equipment & Supplies, spare parts**

**BOE**

Vendor Name - Radian International  
Vendor Quote - \$Quote Received by - C.A.Patnoe, (Subcontract KH900654) FY00 and 01 used as basis for outyears  
Item being quoted - general supplies and expendibles for field support. Time and material contract. Previous years experience on RFETS site doing same tasks used in negotiating the contract  
Availability - generally available. Quotes available from Radian project office and KH procurement contract award records.

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Linear	31.736.28	Dollars

Factors 41417 dollars 0.94701 --- FY00 May Earned Value Factor

0.80913 [SYS 061500] .80704 - System

**Line Item 4 - vehicle lease**

**BOE**

Vendor Name - Radian  
Vendor Quote - Radian subcontract 900654  
Quote Received by - KH program Manager for compliance  
Date Received - March 00  
Item being quoted - vehicle lease  
Other Info - field support vehicles. Cost based on previous annual costs for vehicle lease and maintenance (FY99 3200 per vehicle annual cost per P&I reporting system)WBS 1108040101 and 1108040102  
Availability - Radian project office and K-H P&I reporting system

WBS No: 1HAD0601  
Activity ID: 1HAD6120P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Resources		Cost Element	Skill		Department		Curve	Quantity	Units
		A5L RENTALS	0000	NONE	K109S Env Svs. Stewardship & Compliance		Linear	18.182.69	Dollars
Factors		3200 dollars per year	1	vehicle	6	years	0.94701	--- FY00 May Earned Value Factor	

**Line Item 5 - Radian labor to coordinate activities, maint. Reco**

BOE	Vendor Name - Radian International Vendor Quote - \$378,352 Quote Received by - C.A.Patnoe, (Subcontract KH900654) FY 00 and 01 used as basis for outyears estimates Item being quoted - Technical subcontract services to coordinate ambient network field work, sampler mtmc and calibration and to manage ambient filter-data quality control, analytical laboratory interface, and data uploads to monitoring database -37 RAAMP Samplers Availability - Radian subcontract  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.								
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Linear	289.916.80	Dollars
	Factors 378352 Dollars		0.94701 --- FY00 May Earned Value Factor						

0.80913 [SYS 061500] .80704 - System

**Line Item 6 - Special projects**

BOE	Vendor Name - Radian International Vendor Quote - based on Radian internal historical documentation from past year(s) requests for special projects. Quote Received by - C.A.Patnoe, (Subcontract KH900654) FY00 and 01 used as basis for outyears Item being quoted - Technical subcontract services which will be referred to as "Special Projects". These are activities/tasks that are within the scope of the time and material contract, however, they have not been specifically called out in current line item and are therefore not budgeted. This activity will budget for the yet unknown special project. Availability - Radian subcontract  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.								
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Linear	90.793.64	Dollars
Factors	118489 dollars		0.94701 --- FY00 May Earned Value Factor						

0.80913 [SYS 061500] .80704 - System

**Line Item 7 - Ambient Sampler Removal**

BOE	Vendor Name - Radian Vendor Quote - Radian and radian subs historical data internal to Radian project office Quote Received by - Radian Date Received - March 00 Item being quoted - subcontractor technical support Other Info - based on subcontractor costs passed on to Radian from historical data Availability - Radian project office and K-H procurement  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.								
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Max Backload	25.025.36	Dollars
	Factors	32659 dollars	0.94701	--- FY00 May Earned Value Factor					

0.80913 [SYS 061500] .80704 - System

**Line Item 8 - filter storage and disposal fees**

BOE	Vendor Name - Radian Vendor Quote - Radian and radian subs Quote Received by - Radian Date Received - March 00 Item being quoted - subcontractor fees for disposal Other Info - based on subcontractor costs passed on to Radian from historical data and vendor quotes Availability - Radian project office and K-H procurement  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.								
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Resources		Cost Element	Skill		Department		Curve	Quantity	Units
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WBS No: 1HAD0601  
Activity ID: 1HAD6120P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	8,428.88	Dollars
Factors	2000	dollars per year	5.5	years	0.94701	--- FY00 May Earned Value Factor		

0.80913 [SYS 061500] .80704 - System

**Line Item SYS - Contingency And Escalation**

**BOE**

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	240,494.90	Dollars
	Factors 240495 Dollars								
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	127,544.30	Dollars
	Factors 127544 Dollars								

Activity ID: 1HAD6121P2 Description: Ambient Sampler Disposal

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Ambient Sampler Disposal	1.00	each	VQ	0	0	0	6,230	0	6,230	0	6,230
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	3,324	3,324	0	3,324
Total for Activity 1HAD6121P2:						0	0	6,230	3,324	9,555	0	9,555

**Line Item 1 - Ambient Sampler Disposal**

**BOE**

Vendor Name - Radian  
Vendor Quote - \$1540 per sampler  
Quote Received by - K-H Air Programs  
Date Received - 4-24-00  
Item being quoted - disposal of ambient air samplers  
Other Info - best guess from past experience in field performing like tasks. Based on fixed unit rate time and material contract  
Availability - Radian project records and KH project office back up documents  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Back Loaded	6,230.33	Dollars
	Factors	1540	dollars per sampler for disposal	5	samplers				

0.80913 [SYS 061400] .80704 - System

**Line Item SYS - Contingency And Escalation**

**BOE**

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	2,359.26	Dollars
	Factors 2359.26 Dollars								
	ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	965.18	Dollars
	Factors 965.175 Dollars								

Activity ID: 1HAD6130P2 Description: Meteorology

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	MERCO	1.00	each	VQ	0	0	0	781,209	0	781,209	0	781,209
2	Equipment & supplies	1.00	each	VQ	0	0	0	31,736	0	31,736	0	31,736
3	Radian Labor coord. maint & inventory	1.00	each	VQ	0	0	0	134,412	0	134,412	0	134,412
4	audits	1.00	each	VQ	0	0	0	57,916	0	57,916	0	57,916
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	229,130	229,130	0	229,130
Total for Activity 1HAD6130P2:						0	0	1,005,273	229,130	1,234,403	0	1,234,403

**Line Item 1 - MERCO**

**BOE**

Meteorological Monitoring: Includes 1) MERCO hours to maintain met towers, exchange data loggers, and QA/report data, 2) spare parts and supplies for met towers, 3) Radian hours to manage met calibration, maintenance, data upload, and QA/QC, and 4) independent audit of met towers (usually performed in May).

- MERCO hours/cost based on 10/7/99 cost proposal less spent through January (10/7/99 proposal was based on actual LOE in FY99).  
- Supplies, spare parts, etc. and vehicle lease based on 8/12 of base cost.  
- Radian cost based on original FY00 baseline BOE less spent through January plus \$10k moved from effluent.

WBS No: 1HAD0601  
Activity ID: 1HAD6130P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

- Independent audit cost based on MERC0/Radian 10/7/99 cost proposal (based on FY99 LOE).

Vendor Name - Radian  
Vendor Quote - Support for Radian and Merco for Meteorological Monitoring per subcontract KH900654  
Quote Received by - C. Patnoe  
Date Received - '99  
Item being quoted - Meteorological Monitoring support  
Other Info - subcontractor previously performed same activities  
Availability - Radian project office and K-H procurement

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S Env Sys. Stewardship & Compliance	Linear	781.208.90	Dollars
Factors		1019506 dollars (MERC0)	0.94701 --- FY00 Mav Earned Value Factor				

0.80913 [SYS 061500] .80704 - System

**Line Item 2 - Equipment & supplies**

BOE	Meteorological Monitoring: Includes 1) MERC0 hours to maintain met towers, exchange data loggers, and QA/report data, 2) spare parts and supplies for met towers, 3) Radian hours to manage met calibration, maintenance, data upload, and QA/QC, and 4) independent audit of met towers (usually performed in May).						
	<ul style="list-style-type: none"><li>- MERC0 hours/cost based on 10/7/99 cost proposal less spent through January (10/7/99 proposal was based on actual LOE in FY99).</li><li>- Supplies, spare parts, etc. and vehicle lease based on 8/12 of base cost.</li><li>- Radian cost based on original FY00 baseline BOE less spent through January plus \$10k moved from effluent.</li><li>- Independent audit cost based on MERC0/Radian 10/7/99 cost proposal (based on FY99 LOE).</li></ul> <p>Vendor Name - Radian Vendor Quote - Support for Radian and Merco for Meteorological Monitoring per subcontract KH900654 Quote Received by - C. Patnoe Date Received - '99 Item being quoted - Meteorological Monitoring support Other Info - subcontractor previously performed same activities Availability - K-H procurement files and Radian internal cost data</p> <p>This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.</p>						

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S Env Sys. Stewardship & Compliance	Linear	31.736.28	Dollars
Factors		41417 dollars	0.94701 --- FY00 Mav Earned Value Factor				

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - Radian Labor coord, maint & inventory**

BOE	<ul style="list-style-type: none"><li>- MERC0 hours/cost based on 10/7/99 cost proposal less spent through January (10/7/99 proposal was based on actual LOE in FY99).</li><li>- Supplies, spare parts, etc. and vehicle lease based on 8/12 of base cost.</li><li>- Radian cost based on original FY00 baseline BOE less spent through January plus \$10k moved from effluent.</li><li>- Independent audit cost based on MERC0/Radian 10/7/99 cost proposal (based on FY99 LOE).</li></ul> <p>Vendor Name - Radian Vendor Quote - Support for Radian and Merco for Meteorological Monitoring per subcontract KH900654 Quote Received by - C. Patnoe Date Received - '99 Item being quoted - Meteorological Monitoring support Other Info - subcontractor previously performed same activities at RFETS Availability - K-H procurement files and Radian internal cost data</p> <p>This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.</p>						

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S Env Sys. Stewardship & Compliance	Linear	134.412.40	Dollars
Factors		175413 dollars radian lbr	0.94701 --- FY00 Mav Earned Value Factor				

0.80913 [SYS 061500] .80704 - System

WBS No: 1HAD0601  
Activity ID: 1HAD6130P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

**Line Item 4 - audits**

**BOE**

proposal was based on actual LOE in FY99).  
- Supplies, spare parts, etc. and vehicle lease based on 8/12 of base cost.  
- Radian cost based on original FY00 baseline BOE less spent through January plus \$10k moved from effluent.  
- Independent audit cost based on MERCO/Radian 10/7/99 cost proposal (based on FY99 LOE).

Vendor Name - Radian  
Vendor Quote - Support for Radian and Merco for Meteorological Monitoring per subcontract KH900654  
Quote Received by - C. Patnoe  
Date Received - '99  
Item being quoted - Meteorological Monitoring support  
Other Info - subcontractor previously performed same activities at RFETS  
Availability - K-H procurement files and Radian internal cost data

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Linear	57.915.63	Dollars

Factors 75582 dollars (audits)

0.94701 --- FY00 Max Earned Value Factor

0.80913 [SYS 061500] .80704 - System

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	149.468.00	Dollars

Factors 149468 Dollars

ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	79.661.62	Dollars
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Factors 79661.6 Dollars

Activity ID: 1HAD6131P2 Description: Met Tower Removal

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	D & D Met Tower	1.00	each	VQ	0	0	0	16.183	0	16.183	0	16.183
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	2.306	2.306	0	2.306
Total for Activity 1HAD6131P2:						0	0	16.183	2.306	18.489	0	18.489

**Line Item 1 - D & D Met Tower**

**BOE**

Vendor Name - Radian  
Vendor Quote - \$20K subcontracted work to remove tower (quote from Tower Systems)  
Quote Received by - Radian Air programs  
Date Received - March 00  
Item being quoted - D & D Met Tower  
Other Info - Radian to subcontract effort to Tower Systems who has previously performed similar tasks at RFETS - time and material subcontract  
Availability - Radian project office records

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Back Loaded	16.182.68	Dollars

Factors 20000 Dollars

0.80913 [SYS 061400] .80704 - System

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	752.47	Dollars

Factors 752.466 Dollars

ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.553.80	Dollars
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Factors 1553.80 Dollars

Activity ID: 1HXXX611P2 Description: Effluent Air Monitoring - FY06

Cost Risk 1 Schedule Risk 1

WBS No: 1HAD0601  
Activity ID: 1HXXX611P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	RCT support Effluent Monitor - Filter Echgs	0.17	each	HC	11.180	1.940	40.251	0	0	40.251	16.823	57.074
2	Metrology/flow profiles	0.17	each	VQ	0	0	0	1.965	0	1.965	0	1.965
3	Analytical & Shipping	0.17	each	VQ	0	0	0	53.179	0	53.179	0	53.179
4	TNU	0.17	each	VQ	0	0	0	28.497	0	28.497	0	28.497
5	Equip. Filters/Bottles. Supplies	0.17	each	VQ	0	0	0	3.396	0	3.396	0	3.396
6	Vehicle Lease	0.17	each	VQ	0	0	0	2.892	0	2.892	0	2.892
7	Radian labor to coordinate effluent activities	0.17	each	VQ	0	0	0	29.780	0	29.780	0	29.780
8	Special Projects	0.17	each	VQ	0	0	0	5.983	0	5.983	0	5.983
9	filter storage and disposal fees	0.17	each	VQ	0	0	0	1.197	0	1.197	0	1.197
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	136.953	136.953	0	136.953
Total for Activity 1HXXX611P2:						1.940	40.251	126.888	136.953	304.092	16.823	320.915

**Line Item 1 - RCT support Effluent Monitor - Filter Echgs**

BOE	<p>RCT support of Effluent air monitor filter exchanges.</p> <p>Historical Data Source - P&amp;I Reporting System Mar., Detailed Spending Variance Report and labor reports for WBS element 1.1.08.04.01.01, Breakdown of Historical Data: Labor hours equate to 1.1 FTE's per month average</p> <p>Item Desc - Exchange of effluent air monitor filters</p> <p>Item - RCT labor hours</p> <p>Units - hours per month average</p> <p>Unit Cost - averaged 170 hours per month</p> <p>Current estimate was based on 1.1 FTE @ and average of 154 available hours per month (1850 hrs per year/12 months) to the end of closure 12/15/05. No change from current requirements supports same level of effort</p> <p>Effluent Monitoring Systems Support: Includes 1) RCT hours to exchange filters and tritium bubblers, as well as determine maintenance requirements for samplers, 2) once per year flow profiling of significant samplers by Metrology, 3) lease of 1 vehicle. 4) filters, bottles, and other sampling supplies, and 5) Radian hours to manage filter/bubbler exchanges, lab analyses, database uploads, and QA/QC of data. 6) analytical, shipping, compositing, and gross alpha/beta, and special projects analytical costs</p> <p>- RCT time based on 2080 hours per year plus an additional 80 hours to cover training of backup RCT at \$22/hr.</p> <p>- Assume 120 hrs for flow profiles, at \$22/hr.</p> <p>-Supplies and vehicle lease at 8/12 of base cost.</p> <p>- Radian cost based on original FY00 baseline BOE less spent through January less \$20k moved to compliance/permitting and ambient/met.</p>
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Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	750 STRAIGHT TIME BASE	T050 RADIATION CONTROL TECHNOLOGI	KH10H EESH&Q Steelworkers	Triangular	11.180	40 Hours
Factors	154 hours per month (1850/12)	1.1 fte per month	66 months			

**Line Item 2 - Metrology/flow profiles**

BOE	<p>Technical subcontracted services for the scheduled maintenance</p> <p>Vendor Name - Radian</p> <p>Vendor Quote - per subcontract 900654</p> <p>Quote Received by - KH procurement</p> <p>Date Received - for FY00 contract mod</p> <p>Item being quoted - subcontractor labor hours</p> <p>Other Info - time and material subcontract</p> <p>Availability - Radian internal historical data</p> <p>The following supports this line item as well as the remaining line items for Effluent Monitoring Systems Support: Includes 1) RCT hours to exchange filters and tritium bubblers, as well as determine maintenance requirements for samplers, 2) once per year flow profiling of significant samplers by Metrology, 3) lease of 1 vehicle. 4) filters, bottles, and other sampling supplies, and 5) Radian hours to manage filter/bubbler exchanges, lab analyses, database uploads, and QA/QC of data. 6) analytical, shipping, compositing, and gross alpha/beta, and special projects analytical costs</p> <p>- Per Radian vendor quote (based on their internal hisorical data) Assume 120 hrs for flow profiles, at \$22/hr.</p> <p>This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.</p>
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Resources	Cost Element	Skill	Department	Curve	Quantity	Units
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WBS No: 1HAD0601  
Activity ID: 1HXXX611P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1HAD  
\*

Starts In FY \*

A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	11.328.42	Dollars
Factors	120	hours per year	22	dollars per hour	5.6	years	0.94701	--- FY00 May Earned Value Factor
							0.80913	[SYS 061500] .80704 - System

**Line Item 3 - Analytical & Shipping**

**BOE**  
Vendor Name - Radian  
Vendor Quote - per subcontract 900654  
Quote Received by - KH procurement  
Date Received - FY00 contract Mod  
Item being quoted - subcontractor labor hours and laboratory costs  
Other Info - Quote based on cost incurred by subcontractor in FY99 and FY00. Supported by KH analytical database tracking system  
Availability - Radian internal historical documentation and KH Analytical services actual costs  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	306.504.90	Dollars
Factors	400000 dollars		0.94701 --- FY00 May Earned Value Factor				0.80913 [SYS 061500] .80704 - System		

**Line Item 4 - TNU**

**BOE**  
Vendor Name - Radian International  
Vendor Quote - for TNU Thermal Nutech analytical support subcontract KH700093  
Quote Received by - KH procurement  
Item being quoted - Technical subcontracted services for the analysis of sample provide to subcontractor  
Other Info: Quote based on data provided by Radian from internal historical costs data and KH analytical services database and actual historical costs from subcontractor. Current subcontract and quantities shipped in FY99 and FY00 were used by Radian as a baseline for outyear estimates.  
Availability - Radian internal historical documentation  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	164.244.50	Dollars
Factors	214345	dollars	0.94701 --- FY00 May Earned Value Factor				0.80913 [SYS 061500] .80704 - System		

**Line Item 5 - Equip, Filters/Bottles, Supplies**

**BOE**  
Vendor Name - Radian  
Vendor Quote - based on subcontract 900654 and actual cost incurred by subcontractor  
Quote Received by - KH procurement  
Date Received - FY 00 contract Mod  
Item being quoted - ODC (field equipment and expendible supplies  
Other Info - actual cost for FY99 and FY00 incurred by subcontractor were basis of this estimate  
Availability - Radian internal historical cost and and KH procurement invoices from subcontractor

Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	A5C	SUPPLIES		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	19.571.96	Dollars
	Factors	20667	dollars	0.94701 --- FY00 May Earned Value Factor						

**Line Item 6 - Vehicle Lease**

**BOE**  
Vendor Name - Radian  
Vendor Quote - Radian subcontract 900654  
Quote Received by - KH program Manager for compliance  
Date Received - FY 00 contract Mod  
Item being quoted - vehicle lease  
Other Info - field support vehicles. Cost based on previous annual costs for vehicle lease and maintenance (FY99 3200 per vehicle annual cost per P&I reporting system) WBS 1108040101 and 1108040102  
Availability - Radian internal historical data and actuals from K-H P&I reporting system

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5L	RENTALS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Front Loaded	16.667.46	Dollars
	Factors	3200	per vehicle per year	1	vehicles	5.5	years	0.94701	--- FY00 May Earned Value Factor

**Line Item 7 - Radian labor to coordinate effluent activities**

**BOE**  
Vendor Name - Radian

WBS No: 1HAD0601  
Activity ID: 1HXXX611P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Vendor Quote - per Radian subcontract 900654  
Quote Received by - KH procurement  
Date Received - FY 00 contract Mod  
Item being quoted - Radian direct labor support for effluent monitoring activities  
Other Info - Provided by Radian as summary from detailed matrix of labor categories and rates. An average rate was established from Radian internal historical data for labor categories used in support of the effluent monitoring activities. This composite rate was then applied to the project labor hours estimated by Radian Project Manager to be required to support the closure program thru 12/15/05.  
Availability - Radian internal historical data and KH procurement  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	171.642.70	Dollars
Factors		224000 dollars	0.94701 --- FY00 Mav Earned Value Factor		0.80913 [SYS 061500] .80704 - Svstem				

**Line Item 8 - Special Projects**

BOE  
Vendor Name - Radian  
Vendor Quote - subcontract 900654  
Quote Received by - KH procurement  
Date Received - FY 00 contract mod  
Item being quoted - special project Radian support  
Other Info - based on previous experience in like projects. Current effluent program has historically encountered two or more special projects each fiscal year. Most of the time these special projects are within scope of the contract but not specifically budgeted in baseline plan. This line item is intended to cover these undefined special projects for FY 00 and 01.  
Availability - Radian internal historical data and KH procurement invoices  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	34.481.80	Dollars
Factors		45000 dollars	0.94701 --- FY00 May Earned Value Factor		0.80913 [SYS 061500] .80704 - System				

**Line Item 9 - filter storage and disposal fees**

BOE  
Vendor Name - Radian  
Vendor Quote - Radian and Radian subs  
Quote Received by - Radian, Air programs project office  
Date Received - 4-2-00  
Item being quoted - subcontractor fees for disposal  
Other Info - based on subcontractor costs passed on to Radian from historical data and new verbal quotes from their subcontractors  
Availability - Radian internal cost estimating  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	6.896.36	Dollars
Factors		2000 dollars per year	4.5 years		0.80913 [SYS 061500] .80704 - Svstem				

**Line Item SYS - Contingency And Escalation**

Resources		Cost Element	Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	96.808.90	Dollars
Factors		96808.9 Dollars							
ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	40.144.01	Dollars
Factors		40144.0 Dollars							

Activity ID: 1HXXX612P2 Description: Ambient Sampler Disposal- FY06

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Ambient Sampler Disposal	0.96	each	VQ	0	0	0	6.012	0	6.012	0	6.012
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	5.089	5.089	0	5.089

WBS No: 1HAD0601  
Activity ID: 1HXXX612P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Total for Activity 1HXXX612P2:

0	0	6.012	5.089	11.101	0	11.101
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**Line Item 1 - Ambient Sampler Disposal**

**BOE**  
Vendor Name - Radian  
Vendor Quote - \$1540 per sampler  
Quote Received by - K-H Air Programs  
Date Received - 4-24-00  
Item being quoted - disposal of ambient air samplers  
Other Info - best guess from past experience in field performing like tasks. Based on fixed unit rate time and material contract  
Availability - Radian project records and KH project office back up documents

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Back Loaded	6.230.33
Factors	1540	dollars per sampler for disposal	5	samplers			

0.80913 [SYS 061400] .80704 - System

**Line Item SYS - Contingency And Escalation**

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	3.748.50
Factors	3748.5	Dollars					
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	1.340.92
Factors	1340.92	Dollars					

Activity ID: 1HXXX613P2 Description: Meteorology - FY06

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	MERCO	0.17	each	VQ	0	0	0	135.541	0	135.541	0	135.541
2	Equipment & supplies	0.17	each	VQ	0	0	0	5.506	0	5.506	0	5.506
3	Radian Labor coord. maint & inventory	0.17	each	VQ	0	0	0	23.321	0	23.321	0	23.321
4	audits	0.17	each	VQ	0	0	0	10.048	0	10.048	0	10.048
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	125.434	125.434	0	125.434
Total for Activity 1HXXX613P2:						0	0	174.416	125.434	299.850	0	299.850

**Line Item 1 - MERC0**

**BOE**  
Meteorological Monitoring: Includes 1) MERC0 hours to maintain met towers, exchange data loggers, and QA/report data, 2) spare parts and supplies for met towers, 3) Radian hours to manage met calibration, maintenance, data upload, and QA/QC, and 4) independent audit of met towers (usually performed in May).  
- MERC0 hours/cost based on 10/7/99 cost proposal less spent through January (10/7/99 proposal was based on actual LOE in FY99).  
- Supplies, spare parts, etc. and vehicle lease based on 8/12 of base cost.  
- Radian cost based on original FY00 baseline BOE less spent through January plus \$10k moved from effluent.  
- Independent audit cost based on MERC0/Radian 10/7/99 cost proposal (based on FY99 LOE).

Vendor Name - Radian  
Vendor Quote - Support for Radian and Merco for Meteorological Monitoring per subcontract KH900654  
Quote Received by - C. Patnoe  
Date Received - '99  
Item being quoted - Meteorological Monitoring support  
Other Info - subcontractor previously performed same activities  
Availability - Radian project office and K-H procurement

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	781.208.90
Factors	1019506	dollars (MERC0)	0.94701	--- FY00 Mav Earned Value Factor			

0.80913 [SYS 061500] .80704 - System

**Line Item 2 - Equipment & supplies**

BOE	
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WBS No: 1HAD0601  
Activity ID: 1HXXX613P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Meteorological Monitoring: Includes 1) MERC0 hours to maintain met towers, exchange data loggers, and QA/report data, 2) spare parts and supplies for met towers, 3) Radian hours to manage met calibration, maintenance, data upload, and QA/QC, and 4) independent audit of met towers (usually performed in May).

- MERC0 hours/cost based on 10/7/99 cost proposal less spent through January (10/7/99 proposal was based on actual LOE in FY99).
- Supplies, spare parts, etc. and vehicle lease based on 8/12 of base cost.
- Radian cost based on original FY00 baseline BOE less spent through January plus \$10k moved from effluent.
- Independent audit cost based on MERC0/Radian 10/7/99 cost proposal (based on FY99 LOE).

Vendor Name - Radian  
Vendor Quote - Support for Radian and Merco for Meteorological Monitoring per subcontract KH900654  
Quote Received by - C. Patnoe  
Date Received - '99  
Item being quoted - Meteorological Monitoring support  
Other Info - subcontractor previously performed same activities  
Availability - K-H procurement files and Radian internal cost data

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Linear	31.736.28	Dollars
Factors 41417 dollars 0.94701 --- FY00 Mav Earned Value Factor									

0.80913 [SYS 061500] .80704 - Svsstem

**Line Item 3 - Radian Labor coord, maint & inventory**

BOE	<ul style="list-style-type: none"><li>- MERC0 hours/cost based on 10/7/99 cost proposal less spent through January (10/7/99 proposal was based on actual LOE in FY99).</li><li>- Supplies, spare parts, etc. and vehicle lease based on 8/12 of base cost.</li><li>- Radian cost based on original FY00 baseline BOE less spent through January plus \$10k moved from effluent.</li><li>- Independent audit cost based on MERC0/Radian 10/7/99 cost proposal (based on FY99 LOE).</li></ul> <p>Vendor Name - Radian Vendor Quote - Support for Radian and Merco for Meteorological Monitoring per subcontract KH900654 Quote Received by - C. Patnoe Date Received - '99 Item being quoted - Meteorological Monitoring support Other Info - subcontractor previously performed same activities at RFETS Availability - K-H procurement files and Radian internal cost data</p> <p>This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.</p>								

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Svs. Stewardship & Compliance	Linear	134.412.40	Dollars
Factors 175413 dollars radian lbr 0.94701 --- FY00 Mav Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

**Line Item 4 - audits**

BOE	<p>proposal was based on actual LOE in FY99).</p> <ul style="list-style-type: none"><li>- Supplies, spare parts, etc. and vehicle lease based on 8/12 of base cost.</li><li>- Radian cost based on original FY00 baseline BOE less spent through January plus \$10k moved from effluent.</li><li>- Independent audit cost based on MERC0/Radian 10/7/99 cost proposal (based on FY99 LOE).</li></ul> <p>Vendor Name - Radian Vendor Quote - Support for Radian and Merco for Meteorological Monitoring per subcontract KH900654 Quote Received by - C. Patnoe Date Received - '99 Item being quoted - Meteorological Monitoring support Other Info - subcontractor previously performed same activities at RFETS Availability - K-H procurement files and Radian internal cost data</p> <p>This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.</p>								

Resources	Cost Element		Skill		Department		Curve	Quantity	Units

WBS No: 1HAD0601  
Activity ID: 1HXXX613P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	57.915.63	Dollars
Factors	75582 dollars (audits)	0.94701	--- FY00 May Earned Value Factor					

0.80913 [SYS 061500] .80704 - System

**Line Item SYS - Contingency And Escalation**

**BOE**

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	87.770.04	Dollars
Factors	87770.0 Dollars							
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	37.663.57	Dollars
Factors	37663.6 Dollars							

Activity ID: 1HXXXD612P Description: Ambient Air Monitoring - FY06

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	MERCO	0.17	ea	VQ	0	0	0	90.731	0	90.731	0	90.731
2	Analytical & Shipping	0.17	ea	VQ	0	0	0	119.121	0	119.121	0	119.121
3	Equipment & Supplies, spare parts	0.17	ea	VQ	0	0	0	5.506	0	5.506	0	5.506
4	vehicle lease	0.17	ea	HC	0	0	0	3.155	0	3.155	0	3.155
5	Radian labor to coordinate activities, maint. Reco	0.17	ea	VQ	0	0	0	50.301	0	50.301	0	50.301
6	Special projects	0.17	ea	VQ	0	0	0	15.753	0	15.753	0	15.753
7	Ambient Sampler Removal	0.17	each	VQ	0	0	0	4.342	0	4.342	0	4.342
8	filter storage and disposal fees	0.17	ea	VQ	0	0	0	1.462	0	1.462	0	1.462
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	210.166	210.166	0	210.166
Total for Activity 1HXXXD612P:						0	0	290.372	210.166	500.537	0	500.537

**Line Item 1 - MERC0**

**BOE**

Vendor Name - Radian International Vendor Quote - per subcontract KH900654 Quote Received by - C.A.Patnoe, (Subcontract KH900654) FY00 and 01 used as basis for outyears Item being quoted - Technical subcontracted services Availability - Radian internal cost estimating and historical costs
Ambient Monitoring: Includes 1) MERC0 hours to maintain RAAMPs, exchange filter cartridges, and perform RAAMP calibrations, 2) spare parts and supplies for RAAMPs, 3) 1 vehicle lease, 4) Radian hours to manage RAAMP exchanges, calibration, maintenance, lab analyses, data upload, and QA/QC, 5) independent audit of met towers (usually performed in May), 6) analytical, shipping, loading/unloading cartridges, validation, and verification, and 7) analytical costs for special projects.  - MERC0 hours represent FY00 estimated LOE plus an additional 5%, assuming more project monitoring. - Spare parts, supplies, and vehicle lease use FY00 estimate. - Radian hours based on FY98-00 actual LOE. - Analytical etc. costs from J. Euler spreadsheet. Uses FY00 cost per analysis and CY01 number of analyses (typical 12-month period). - Special project costs assumes 903 Pad remediation will be performed sometime during FY01 through FY03. Spread evenly across years. cost is 20% of unloading/loading and punch and count costs. See J. Euler spreadsheet.  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

**Resources**

Cost Element		Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	522.942.50	Dollars
Factors	682459 dollars (Merco)		0.94701 --- FY00 May Earned Value Factor					

0.80913 [SYS 061500] .80704 - System

**Line Item 2 - Analytical & Shipping**

**BOE**

Vendor Name - Radian International Vendor Quote - \$1,008,436 Quote Received by - C.A.Patnoe, (Subcontract KH900654) FY00 and 01 used as basis for outyears. Revised quote updated for current rebaseline exercise Item being quoted - technical services Availability - generally available, quotes available from Radian project office and K-H analytical database.  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.
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WBS No: 1HAD0601  
Activity ID: 1HXXXD612P

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1HAD  
\*

Starts In FY \*

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	686.570.90	Dollars
Factors 896000 dollars 0.94701 --- FY00 May Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - Equipment & Supplies, spare parts**

BOE	Vendor Name - Radian International Vendor Quote - \$Quote Received by - C.A.Patnoe, (Subcontract KH900654) FY00 and 01 used as basis for outyears Item being quoted - general supplies and expendibles for field support. Time and material contract. Previous years experience on RFETS site doing same tasks used in negotiating the contract Availability - generally available. Quotes available from Radian project office and KH procurement contract award records.  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.								
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	31.736.28	Dollars
Factors 41417 dollars 0.94701 --- FY00 May Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

**Line Item 4 - vehicle lease**

BOE	Vendor Name - Radian Vendor Quote - Radian subcontract 900654 Quote Received by - KH program Manager for compliance Date Received - March 00 Item being quoted - vehicle lease Other Info - field support vehicles. Cost based on previous annual costs for vehicle lease and maintenance (FY99 3200 per vehicle annual cost per P&I reporting system)WBS 1108040101 and 1108040102 Availability - Radian project office and K-H P&I reporting system								
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5L	RENTALS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	18.182.69	Dollars
Factors 3200 dollars per year 1 vehicle 6 years 0.94701 --- FY00 May Earned Value Factor									

**Line Item 5 - Radian labor to coordinate activities, maint. Reco**

BOE	Vendor Name - Radian International Vendor Quote - \$378,352 Quote Received by - C.A.Patnoe, (Subcontract KH900654)FY 00 and 01 used as basis for outyears estimates Item being quoted - Technical subcontract services to coordinate ambient network field work, sampler mtmc and calibration and to manage ambient filter-data quality control, analytical laboratory interface, and data uploads to monitoring database -37 RAAMP Samplers Availability - Radian subcontract  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.								
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	289.916.80	Dollars
Factors 378352 Dollars 0.94701 --- FY00 May Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

**Line Item 6 - Special projects**

BOE	Vendor Name - Radian International Vendor Quote - based on Radian internal historical documentation from past year(s)requests for special projects. Quote Received by - C.A.Patnoe, (Subcontract KH900654) FY00 and 01 used as basis for outyears Item being quoted - Technical subcontract services which will be referred to as "Special Projects". These are activities/tasks that are within the scope of the time and material contract, however, they have not been specifically called out in current line item and are therefore not budgeted. This activity will budget for the yet unknown special project. Availability - Radian subcontract  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.								
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	90.793.64	Dollars
Factors 118489 dollars 0.94701 --- FY00 May Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

WBS No: 1HAD0601  
Activity ID: 1HXXXD612P

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

**Line Item 7 - Ambient Sampler Removal**

**BOE**  
Vendor Name - Radian  
Vendor Quote - Radian and radian subs historical data internal to Radian project office  
Quote Received by - Radian  
Date Received - March 00  
Item being quoted - subcontractor technical support  
Other Info - based on subcontractor costs passed on to Radian from historical data  
Availability - Radian project office and K-H procurement  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Cost Element			Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Backload	25.025.36	Dollars
Factors	32659	dollars		0.94701	--- FY00 Max Earned Value Factor				

0.80913 [SYS 061500] .80704 - System

**Line Item 8 - filter storage and disposal fees**

**BOE**  
Vendor Name - Radian  
Vendor Quote - Radian and radian subs  
Quote Received by - Radian  
Date Received - March 00  
Item being quoted - subcontractor fees for disposal  
Other Info - based on subcontractor costs passed on to Radian from historical data and vendor quotes  
Availability - Radian project office and K-H procurement  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Cost Element			Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	8.428.88	Dollars
Factors	2000	dollars per year		5.5	years	0.94701	--- FY00 Max Earned Value Factor		

0.80913 [SYS 061500] .80704 - System

**Line Item SYS - Contingency And Escalation**

Cost Element			Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	147.341.70	Dollars
Factors	147342	Dollars							
ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	62.823.78	Dollars
Factors	62823.8	Dollars							

WBS No: 1HAD0602 Title: Air Data Analysis/Modeling & Reporting

Activity ID: 1HAD6210P2 Description: Effluent Data Analysis/Modeling/Reporting

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Data analysis, validation, application	1.00	each	VQ	0	0	0	71.432	0	71.432	0	71.432
2	Quarterly data exchange (air)	1.00	each	VQ	0	0	0	32.860	0	32.860	0	32.860
3	Monthly effluent data report	1.00	each	VQ	0	0	0	20.517	0	20.517	0	20.517
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	18.019	18.019	0	18.019
Total for Activity 1HAD6210P2:						0	0	124.809	18.019	142.827	0	142.827

**Line Item 1 - Data analysis, validation, application**

**BOE**  
Vendor Name - Radian  
Vendor Quote - per subcontract KH900654  
Quote Received by - c.Patnoe  
Date Received - FY98  
Item being quoted - technical services, fixed unit rate on time and material contract  
Other Info - based on FY 98-00 LOE  
Availability - K-H procurement and Radian project files  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Cost Element			Skill		Department		Curve	Quantity	Units
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WBS No: 1HAD0602  
Activity ID: 1HAD6210P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Trianglr Decr	71.431.73	Dollars
Factors	93221	dollars	0.94701	--- FY00 May Earned Value Factor				

0.80913 [SYS 061500] .80704 - System

**Line Item 2 - Quarterly data exchange (air)**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - FY 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.							
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Resources	Cost Element			Skill		Department		Curve	Quantity	Units	
	A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance		Trianglr Decr	32.860.39	Dollars
	Factors	42884	dollars	0.94701 --- FY00 May Earned Value Factor							

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - Monthly effluent data report**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy98 Item being quoted - technical services - negotiated fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.							
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Resources	Cost Element			Skill		Department		Curve	Quantity	Units	
	A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance		Trianglr Decr	20.516.67	Dollars
	Factors	26775	dollars	0.94701 --- FY00 May Earned Value Factor							

0.80913 [SYS 061500] .80704 - System

**Line Item SYS - Contingency And Escalation**

BOE										
Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	11.557.83	Dollars
	Factors		11557.8 Dollars							
	ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	6.460.84	Dollars
	Factors		6460.84 Dollars							

Activity ID: 1HAD6220P2 Description: Ambient Data Anavlsis/Modelina/Reporting

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Data analysis validation , application	1.00	each	VQ	0	0	0	111.303	0	111.303	0	111.303
2	Quarterly data exchange (air)	1.00	each	VQ	0	0	0	40.105	0	40.105	0	40.105
3	Monthly ambient data report	1.00	each	VQ	0	0	0	25.040	0	25.040	0	25.040
4	Special Project monitoring reports	1.00	each	VQ	0	0	0	98.037	0	98.037	0	98.037
5	Monthly metrics report	1.00	each	VQ	0	0	0	17.050	0	17.050	0	17.050
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	57.224	57.224	0	57.224
Total for Activity 1HAD6220P2:						0	0	291.534	57.224	348.758	0	348.758

**Line Item 1 - Data analysis, validation , application**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE							
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WBS No: 1HAD0602  
Activity ID: 1HAD6220P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \* *Starts In FY* \*

Availability - K-H procurement and Radian project files

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	<i>Cost Element</i>		<i>Skill</i>		<i>Department</i>		<i>Curve</i>	<i>Quantity</i>	<i>Units</i>
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	111.302.70	Dollars
<i>Factors</i> 145254 dollars 0.94701 --- FY00 Mav Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

**Line Item 2 - Quarterly data exchange (air)**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.								
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Resources	<i>Cost Element</i>		<i>Skill</i>		<i>Department</i>		<i>Curve</i>	<i>Quantity</i>	<i>Units</i>
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	40.104.63	Dollars
<i>Factors</i> 52338 dollars 0.94701 --- FY00 Mav Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - Monthly ambient data report**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.								
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Resources	<i>Cost Element</i>		<i>Skill</i>		<i>Department</i>		<i>Curve</i>	<i>Quantity</i>	<i>Units</i>
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	25.039.92	Dollars
<i>Factors</i> 32678 dollars 0.94701 --- FY00 Mav Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

**Line Item 4 - Special Project monitoring reports**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.								
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Resources	<i>Cost Element</i>		<i>Skill</i>		<i>Department</i>		<i>Curve</i>	<i>Quantity</i>	<i>Units</i>
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	98.037.12	Dollars
<i>Factors</i> 127942 Dollars 0.94701 --- FY00 Mav Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

**Line Item 5 - Monthly metrics report**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files								
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WBS No: 1HAD0602  
Activity ID: 1HAD6220P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Back Loaded	17.050.10	Dollars
<i>Factors</i> 22251   Dollars									

**Line Item SYS - Contingency And Escalation**

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	37.456.00
Factors		37456	Dollars				
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	19.767.73
Factors		19767.7	Dollars				

Activity ID: 1HAD6230P2 Description: Meteorology Data Analysis/Modeling/Report

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Data analysis, validation, application	1.00	each	VQ	0	0	0	50.612	0	50.612	0	50.612
2	Quarterly data exchange (air)	1.00	each	VQ	0	0	0	40.105	0	40.105	0	40.105
3	Monthly meteorology data reports	1.00	each	VQ	0	0	0	25.109	0	25.109	0	25.109
4	Climatic summaries/windroses	1.00	each	VQ	0	0	0	16.032	0	16.032	0	16.032
5	Data request	1.00	each	VQ	0	0	0	92.215	0	92.215	0	92.215
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	40.722	40.722	0	40.722
Total for Activity 1HAD6230P2:						0	0	224.072	40.722	264.794	0	264.794

**Line Item 1 - Data analysis, validation, application**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Alternate Linear	50.611.62	Dollars
Factors	66050	Dollars	0.94701 --- FY00 May Earned Value Factor						
							0.80913 [SYS 061500]	.80704 - System	

**Line Item 2 - Quarterly data exchange (air)**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Alternate Linear	40.104.63	Dollars
Factors		52338	Dollars	0.94701 --- FY00 May Earned Value Factor					
		0.80913 [SYS 061500] .80704 - System							

**Line Item 3 - Monthly meteorology data reports**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654
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WBS No: 1HAD0602  
Activity ID: 1HAD6230P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Quote Received by - c.Patnoe  
Date Received - fy98  
Item being quoted - technical services fixed unit rate time and material subcontract  
Other Info - based on FY 98-00 LOE  
Availability - K-H procurement and Radian project files

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	25.108.88
Factors	32768	Dollars	0.94701	--- FY00 May Earned Value Factor			

0.80913 [SYS 061500] .80704 - System

**Line Item 4 - Climatic summaries/windroses**

BOE  
Vendor Name - Radian  
Vendor Quote - per subcontract KH900654  
Quote Received by - c.Patnoe  
Date Received - fy 98  
Item being quoted - technical services fixed unit rate time and material subcontract  
Other Info - based on FY 98-00 LOE  
Availability - K-H procurement and Radian project files  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	16.031.74
Factors	20922	Dollars	0.94701	--- FY00 May Earned Value Factor			

0.80913 [SYS 061500] .80704 - System

**Line Item 5 - Data request**

BOE  
Vendor Name - Radian  
Vendor Quote - per subcontract KH900654  
Quote Received by - c.Patnoe  
Date Received - fy 98  
Item being quoted - technical services fixed unit rate time and material subcontract  
Other Info - based on FY 98-00 LOE  
Availability - K-H procurement and Radian project files  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	92.215.06
Factors	120344	Dollars	0.94701	--- FY00 May Earned Value Factor			

0.80913 [SYS 061500] .80704 - System

**Line Item SYS - Contingency And Escalation**

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	26.549.41
Factors	26549.4	Dollars					
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	14.173.08
Factors	14173.1	Dollars					

Activity ID: 1HXXX621P2 Description: Effluent Data Analysis/Modeling/Report - FY06

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Data analysis, validation, application	0.17	each	VQ	0	0	0	12.394	0	12.394	0	12.394
2	Quarterly data exchange (air)	0.17	each	VQ	0	0	0	5.701	0	5.701	0	5.701
3	Monthly effluent data report	0.17	each	VQ	0	0	0	3.560	0	3.560	0	3.560
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	16.866	16.866	0	16.866
Total for Activity 1HXXX621P2:						0	0	21.655	16.866	38.521	0	38.521

WBS No: 1HAD0602  
Activity ID: 1HXXX621P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

**Line Item 1 - Data analysis, validation, application**

**BOE**  
Vendor Name - Radian  
Vendor Quote - per subcontract KH900654  
Quote Received by - c.Patnoe  
Date Received - FY98  
Item being quoted - technical services, fixed unit rate on time and material contract  
Other Info - based on FY 98-00 LOE  
Availability - K-H procurement and Radian project files  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Cost Element			Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Trianglr Decr	71.431.73	Dollars
Factors 93221 dollars			0.94701 --- FY00 Mav Earned Value Factor						

0.80913 [SYS 061500] .80704 - System

**Line Item 2 - Quarterly data exchange (air)**

**BOE**  
Vendor Name - Radian  
Vendor Quote - per subcontract KH900654  
Quote Received by - c.Patnoe  
Date Received - FY 98  
Item being quoted - technical services fixed unit rate time and material subcontract  
Other Info - based on FY 98-00 LOE  
Availability - K-H procurement and Radian project files  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Cost Element			Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Trianglr Decr	32.860.39	Dollars
Factors 42884 dollars			0.94701 --- FY00 Mav Earned Value Factor						

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - Monthly effluent data report**

**BOE**  
Vendor Name - Radian  
Vendor Quote - per subcontract KH900654  
Quote Received by - c.Patnoe  
Date Received - fy98  
Item being quoted - technical services - negotiated fixed unit rate time and material subcontract  
Other Info - based on FY 98-00 LOE  
Availability - K-H procurement and Radian project files  
  
This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Cost Element			Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Trianglr Decr	20.516.67	Dollars
Factors 26775 dollars			0.94701 --- FY00 Mav Earned Value Factor						

0.80913 [SYS 061500] .80704 - System

**Line Item SYS - Contingency And Escalation**

Cost Element			Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	12.073.85	Dollars
Factors 12073.9 Dollars									
ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	4.792.54	Dollars
Factors 4792.54 Dollars									

Activity ID: 1HXXX622P2 Description: Ambient Data Anlysis/Modeling/Reporting

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Data analysis, validation, application	0.17	each	VQ	0	0	0	19.311	0	19.311	0	19.311
2	Quarterly data exchange (air)	0.17	each	VQ	0	0	0	6.958	0	6.958	0	6.958
3	Monthly ambient data report	0.17	each	VQ	0	0	0	4.344	0	4.344	0	4.344

WBS No: 1HAD0602  
Activity ID: 1HXXX622P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

4	Special Project monitoring reports	0.17	each	VQ	0	0	0	17.010	0	17.010	0	17.010
5	Monthly metrics report	0.17	each	VQ	0	0	0	2.958	0	2.958	0	2.958
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	37.434	37.434	0	37.434
Total for Activity 1HXXX622P2:					0	0	0	50.582	37.434	88.016	0	88.016

**Line Item 1 - Data analysis, validation , application**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.											
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	111.302.70	Dollars
Factors	145254 dollars		0.94701 --- FY00 May Earned Value Factor						

0.80913 [SYS 061500] .80704 - System

**Line Item 2 - Quarterly data exchange (air)**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.											
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	40.104.63	Dollars
Factors	52338 dollars		0.94701 --- FY00 May Earned Value Factor						

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - Monthly ambient data report**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.											
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	25.039.92	Dollars
Factors	32678	dollars	0.94701	--- FY00 May Earned Value Factor					

0.80913 [SYS 061500] .80704 - System

**Line Item 4 - Special Project monitoring reports**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.											
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
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WBS No: 1HAD0602  
Activity ID: 1HXXX622P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project  
WBS Filter  
Activity Filter  
Baseline Devl  
1HAD  
\*

Starts In FY \*

A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	98.037.12	Dollars
Factors	127942	Dollars	0.94701	--- FY00 Max Earned Value Factor				

0.80913 [SYS 061500] .80704 - System

**Line Item 5 - Monthly metrics report**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.											
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Back Loaded	17.050.10	Dollars
Factors	22251	Dollars	0.94701 --- FY00 May Earned Value Factor						

0.80913 [SYS 061500] .80704 - System

**Line Item SYS - Contingency And Escalation**

BOE										
Resources	Cost Element			Skill		Department		Curve	Quantity	Units
	CON	CONTINGENCY		0000	NONE	ZDEPT	No Department	Linear	26.416.49	Dollars
	Factors 26416.5 Dollars									
	ESC	ESCALATION		0000	NONE	ZDEPT	No Department	Linear	11.017.90	Dollars
	Factors 11017.9 Dollars									

Activity ID: 1HXXX623P2 Description: Meteorology Data Analysis/Modeling/Report

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Data analysis, validation, application	0.17	each	VQ	0	0	0	8.781	0	8.781	0	8.781
2	Quarterly data exchange (air)	0.17	each	VQ	0	0	0	6.958	0	6.958	0	6.958
3	Monthly meteorology data reports	0.17	each	VQ	0	0	0	4.356	0	4.356	0	4.356
4	Climatic summaries/windroses	0.17	each	VQ	0	0	0	2.782	0	2.782	0	2.782
5	Data request	0.17	each	VQ	0	0	0	15.999	0	15.999	0	15.999
SYS	Contingency And Escalation	1.00	lea	EE	0	0	0	0	28.901	28.901	0	28.901
Total for Activity 1HXXX623P2:						0	0	38.877	28.901	67.778	0	67.778

**Line Item 1 - Data analysis, validation, application**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.											
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Resources	Cost Element			Skill		Department		Curve	Quantity	Units	
	A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance		Alternate Linear	50.611.62	Dollars
	Factors	66050	Dollars	0.94701 --- FY00 May Earned Value Factor							

0.80913 [SYS 061500] .80704 - System

**Line Item 2 - Quarterly data exchange (air)**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE											
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WBS No: 1HAD0602  
Activity ID: 1HXXX623P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \* *Starts In FY* \*

Availability -K-H procurement and Radian project files

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	<i>Cost Element</i>		<i>Skill</i>		<i>Department</i>		<i>Curve</i>	<i>Quantity</i>	<i>Units</i>
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Alternate Linear	40.104.63	Dollars
<i>Factors</i> 52338 Dollars 0.94701 --- FY00 Max Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - Monthly meteorology data reports**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.								
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Resources	<i>Cost Element</i>		<i>Skill</i>		<i>Department</i>		<i>Curve</i>	<i>Quantity</i>	<i>Units</i>
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	25.108.88	Dollars
<i>Factors</i> 32768 Dollars 0.94701 --- FY00 Max Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

**Line Item 4 - Climatic summaries/windroses**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.								
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Resources	<i>Cost Element</i>		<i>Skill</i>		<i>Department</i>		<i>Curve</i>	<i>Quantity</i>	<i>Units</i>
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Max Frontload	16.031.74	Dollars
<i>Factors</i> 20922 Dollars 0.94701 --- FY00 Max Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

**Line Item 5 - Data request**

BOE	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c.Patnoe Date Received - fy 98 Item being quoted - technical services fixed unit rate time and material subcontract Other Info - based on FY 98-00 LOE Availability - K-H procurement and Radian project files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.								
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Resources	<i>Cost Element</i>		<i>Skill</i>		<i>Department</i>		<i>Curve</i>	<i>Quantity</i>	<i>Units</i>
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	92.215.06	Dollars
<i>Factors</i> 120344 Dollars 0.94701 --- FY00 Max Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

**Line Item SYS - Contingency And Escalation**

BOE									
Resources	<i>Cost Element</i>		<i>Skill</i>		<i>Department</i>		<i>Curve</i>	<i>Quantity</i>	<i>Units</i>
	CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	20.421.34	Dollars
<i>Factors</i> 20421.3 Dollars									

WBS No: 1HAD0602  
Activity ID: 1HXXX623P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*  
8,479.95 Dollars

ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	8,479.95	Dollars
Factors 8479.95 Dollars								

WBS No: 1HAD0603 Title: Project Management Support  
Activity ID: 1HAD6310P2 Description: Air Strategic Support

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Management/trouble shooting	1.00	each	VQ	0	0	0	528.202	0	528.202	0	528.202
2	Database coord/testing	1.00	each	VQ	0	0	0	49.330	0	49.330	0	49.330
3	Database programming/ reports	1.00	each	VQ	0	0	0	47.815	0	47.815	0	47.815
4	functional work center support	1.00	each	VQ	0	0	0	35.067	0	35.067	0	35.067
5	Project monitoring plan development	1.00	ea	VQ	0	0	0	89.686	0	89.686	0	89.686
6	Admin support	1.00	each	VQ	0	0	0	81.841	0	81.841	0	81.841
7	plans and procedures	1.00	each	VQ	0	0	0	52.639	0	52.639	0	52.639
8	Radian ODC's	1.00	each	VQ	0	0	0	38.368	0	38.368	0	38.368
9	Special projects/tech expertise	1.00	each	VQ	0	0	0	106.311	0	106.311	0	106.311
ISYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	212.580	212.580	0	212.580
Total for Activity 1HAD6310P2:						0	0	1,029.259	212.580	1,241.839	0	1,241.839

**Line Item 1 - Management/trouble shooting**

BOE	<p>- Management LOE based on FY98-00 (Radian hours).</p> <p>- Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00.</p> <p>- FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours).</p> <p>- ODCs based on FY00 estimate, split between monitoring and compliance/permitting.</p> <p>- Special projects are based on FY00 estimate * 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours)</p> <p>- Office supplies and training/conference based on FY00 baseline BOE.</p> <p>Vendor Name - Radian</p> <p>Vendor Quote - per subcontract KH900654</p> <p>Quote Received by - c. Patnoe</p> <p>Date Received - fy98</p> <p>Item being quoted - subcontract technical services fixed unit rate time and material</p> <p>Other Info - subcontractor has performed this activity previously at RFETS under this contract</p> <p>Availability - K-H procurement and Radian project office files</p> <p>This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.</p>
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Resources	Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000 NONE	K109S Env Sys. Stewardship & Compliance	Front Loaded	528.202.20	Dollars

Factors 689323 Dollars

0.94701 --- FY00 Max Earned Value Factor

0.80913 ISYS 0615001 .80704 - System

**Line Item 2 - Database coord/testing**

BOE	<p>Management LOE based on FY98-00 (Radian hours).</p> <p>- Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00.</p> <p>- FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours).</p> <p>- ODCs based on FY00 estimate, split between monitoring and compliance/permitting.</p> <p>- Special projects are based on FY00 estimate * 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours)</p> <p>- Office supplies and training/conference based on FY00 baseline BOE.</p> <p>Vendor Name - Radian</p> <p>Vendor Quote - per subcontract KH900654</p> <p>Quote Received by - c. Patnoe</p> <p>Date Received - fy 98</p> <p>Item being quoted - subcontract technical services fixed unit rate time and material</p> <p>Other Info - subcontractor has performed this activity previously at RFETS under this contract</p>
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WBS No: 1HAD0603  
Activity ID: 1HAD6310P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \* *Starts In FY* \*

Availability - K-H procurement and Radian project office files

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	49.329.66	Dollars
<i>Factors</i> 64377 Dollars 0.94701 --- FY00 May Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - Database programming/ reports**

BOE	<p>Management LOE based on FY98-00 (Radian hours).</p> <ul style="list-style-type: none"><li>- Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00.</li><li>- FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours).</li><li>- ODCs based on FY00 estimate, split between monitoring and compliance/permitting.</li><li>- Special projects are based on FY00 estimate * 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours)</li><li>- Office supplies and training/conference based on FY00 baseline BOE.</li></ul> <p>Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c. Patnoe Date Received - fy 98 Item being quoted - subcontract technical services fixed unit rate time and material Other Info - subcontractor has performed this activiyy previously at RFETS under this contract Availability - K-H procurement and Radian project office files</p> <p>This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.</p>								
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	47.814.76	Dollars
<i>Factors</i> 62400 Dollars 0.94701 --- FY00 May Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

**Line Item 4 - functional work center support**

BOE	<p>Management LOE based on FY98-00 (Radian hours).</p> <ul style="list-style-type: none"><li>- Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00.</li><li>- FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours).</li><li>- ODCs based on FY00 estimate, split between monitoring and compliance/permitting.</li><li>- Special projects are based on FY00 estimate * 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours)</li><li>- Office supplies and training/conference based on FY00 baseline BOE.</li></ul> <p>Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c. Patnoe Date Received - fy 98 Item being quoted - subcontract technical services fixed unit rate time and material Other Info - subcontractor has performed this activiyy previously at RFETS under this contract Availability - K-H procurement and Radian project office files</p> <p>This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.</p>								
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Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	35.067.22	Dollars
<i>Factors</i> 45764 Dollars 0.94701 --- FY00 May Earned Value Factor									

0.80913 [SYS 061500] .80704 - System

**Line Item 5 - Project monitoring plan development**

BOE	<p>Management LOE based on FY98-00 (Radian hours).</p> <ul style="list-style-type: none"><li>- Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse</li></ul>								
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WBS No: 1HAD0603  
Activity ID: 1HAD6310P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

(programmer), also based on substantial reduction from FY00.  
- FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours).  
- ODCs based on FY00 estimate, split between monitoring and compliance/permitting.  
- Special projects are based on FY00 estimate \* 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours)  
- Office supplies and training/conference based on FY00 baseline BOE.

Vendor Name - Radian  
Vendor Quote - per subcontract KH900654  
Quote Received by - c. Patnoe  
Date Received - fy 98  
Item being quoted - subcontract technical services fixed unit rate time and material  
Other Info - subcontractor has performed this activiyy previously at RFETS under this contract  
Availability - K-H procurement and Radian project office files

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	89.685.63	Dollars
Factors		117043 Dollars	0.94701 --- FY00 May Earned Value Factor						

0.80913 [SYS 061500] .80704 - System

**Line Item 6 - Admin support**

**BOE**  
Management LOE based on FY98-00 (Radian hours).  
- Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00.  
- FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours).  
- ODCs based on FY00 estimate, split between monitoring and compliance/permitting.  
- Special projects are based on FY00 estimate \* 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours)  
- Office supplies and training/conference based on FY00 baseline BOE.

Vendor Name - Radian  
Vendor Quote - per subcontract KH900654  
Quote Received by - c. Patnoe  
Date Received - fy 98  
Item being quoted - subcontract technical services fixed unit rate time and material  
Other Info - subcontractor has performed this activiyy previously at RFETS under this contract  
Availability - K-H procurement and Radian project office files

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill		Department		Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS		0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	81.841.40	Dollars
Factors		106806 Dollars	0.94701 --- FY00 May Earned Value Factor						

0.80913 [SYS 061500] .80704 - System

**Line Item 7 - plans and procedures**

**BOE**  
Management LOE based on FY98-00 (Radian hours).  
- Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00.  
- FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours).  
- ODCs based on FY00 estimate, split between monitoring and compliance/permitting.  
- Special projects are based on FY00 estimate \* 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours)  
- Office supplies and training/conference based on FY00 baseline BOE.

Vendor Name - Radian  
Vendor Quote - per subcontract KH900654  
Quote Received by - c. Patnoe  
Date Received - fy 98

WBS No: 1HAD0603  
Activity ID: 1HAD6310P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Item being quoted - subcontract technical services fixed unit rate time and material  
Other Info - subcontractor has performed this activity previously at RFETS under this contract  
Availability - K-H procurement and Radian project office files

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	52.639.15Dollars
Factors		68696	Dollars	0.94701 --- FY00 Mav Earned Value Factor			

0.80913 [SYS 061500] .80704 - Svstem

**Line Item 8 - Radian ODC's**

BOE	<p>Management LOE based on FY98-00 (Radian hours).</p> <ul style="list-style-type: none"><li>- Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00.</li><li>- FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours).</li><li>- ODCs based on FY00 estimate, split between monitoring and compliance/permitting.</li><li>- Special projects are based on FY00 estimate * 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours)</li><li>- Office supplies and training/conference based on FY00 baseline BOE.</li></ul> <p>Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c. Patnoe Date Received - fy 98 Item being quoted - subcontract technical services fixed unit rate time and material Other Info - subcontractor has performed this activity previously at RFETS under this contract Availability - K-H procurement and Radian project office files</p> <p>This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.</p>						
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	38.367.52Dollars
Factors		50071	Dollars	0.94701 --- FY00 Mav Earned Value Factor			

0.80913 [SYS 061500] .80704 - Svstem

**Line Item 9 - Special projects/tech expertise**

BOE	<p>Management LOE based on FY98-00 (Radian hours).</p> <ul style="list-style-type: none"><li>- Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00.</li><li>- FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours).</li><li>- ODCs based on FY00 estimate, split between monitoring and compliance/permitting.</li><li>- Special projects are based on FY00 estimate * 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours)</li><li>- Office supplies and training/conference based on FY00 baseline BOE.</li></ul> <p>Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c. Patnoe Date Received - fy 98 Item being quoted - subcontract technical services fixed unit rate time and material Other Info - subcontractor has performed this activity previously at RFETS under this contract Availability - K-H procurement and Radian project office files</p> <p>This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.</p>						
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Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	106.311.20Dollars
Factors		138740	Dollars	0.94701 --- FY00 Mav Earned Value Factor			

0.80913 [SYS 061500] .80704 - Svstem

**Line Item SYS - Contingency And Escalation**

BOE

WBS No: 1HAD0603  
Activity ID: 1HAD6310P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	CON CONTINGENCY	0000 NONE	ZDEPT No Department	Linear	138.976.20	Dollars
Factors 138976 Dollars						
	ESC ESCALATION	0000 NONE	ZDEPT No Department	Linear	73.604.20	Dollars
Factors 73604.2 Dollars						

Activity ID: 1HXXX631P2 Description: Air Strategic Support - FY06

Cost Risk 1 Schedule Risk 1

Line Item	Description	Quantity	Units	BOE Type	Labor Hours/Unit	Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
1	Management/trouble shooting	0.17	each	VQ	0	0	0	91.644	0	91.644	0	91.644
2	Database coord/testing	0.17	each	VQ	0	0	0	8.559	0	8.559	0	8.559
3	Database programming/ reports	0.17	each	VQ	0	0	0	8.296	0	8.296	0	8.296
4	functional work center support	0.17	each	VQ	0	0	0	6.084	0	6.084	0	6.084
5	Project monitoring plan development	0.17	ea	VQ	0	0	0	15.561	0	15.561	0	15.561
6	Admin support	0.17	each	VQ	0	0	0	14.200	0	14.200	0	14.200
7	plans and procedures	0.17	each	VQ	0	0	0	9.133	0	9.133	0	9.133
8	Radian ODC's	0.17	each	VQ	0	0	0	6.657	0	6.657	0	6.657
9	Special projects/tech expertise	0.17	each	VQ	0	0	0	18.445	0	18.445	0	18.445
SYS	Contingency And Escalation	1.00	ea	EE	0	0	0	0	130.951	130.951	0	130.951
Total for Activity 1HXXX631P2:						0	0	178.578	130.951	309.529	0	309.529

**Line Item 1 - Management/trouble shooting**

BOE	<ul style="list-style-type: none"><li>- Management LOE based on FY98-00 (Radian hours).</li><li>- Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00.</li><li>- FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours).</li><li>- ODCs based on FY00 estimate, split between monitoring and compliance/permitting.</li><li>- Special projects are based on FY00 estimate * 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours)</li><li>- Office supplies and training/conference based on FY00 baseline BOE.</li></ul> <p>Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c. Patnoe Date Received - fy98 Item being quoted - subcontract technical services fixed unit rate time and material Other Info - subcontractor has performed this activity previously at RFETS under this contract Availability - K-H procurement and Radian project office files</p> <p>This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.</p>
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Resources	Cost Element	Skill	Department	Curve	Quantity	Units
	A5H SUBCONTRACTED SRVS	0000 NONE	K109S Env Sys. Stewardship & Compliance	Front Loaded	528.202.20	Dollars
Factors 689323 Dollars 0.94701 --- FY00 Mav Earned Value Factor						

0.80913 [SYS 061500] .80704 - System

**Line Item 2 - Database coord/testing**

BOE	<ul style="list-style-type: none"><li>- Management LOE based on FY98-00 (Radian hours).</li><li>- Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00.</li><li>- FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours).</li><li>- ODCs based on FY00 estimate, split between monitoring and compliance/permitting.</li><li>- Special projects are based on FY00 estimate * 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours)</li><li>- Office supplies and training/conference based on FY00 baseline BOE.</li></ul> <p>Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c. Patnoe</p>
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WBS No: 1HAD0603  
Activity ID: 1HXXX631P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Date Received - fy 98  
Item being quoted - subcontract technical services fixed unit rate time and material  
Other Info - subcontractor has performed this activiyy previously at RFETS under this contract  
Availability - K-H procurement and Radian project office files

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	49.329.66	Dollars

Factors 64377 Dollars

0.94701 --- FY00 Mav Earned Value Factor

0.80913 [SYS 061500] .80704 - System

**Line Item 3 - Database programming/ reports**

**BOE**

Management LOE based on FY98-00 (Radian hours).  
- Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00.  
- FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours).  
- ODCs based on FY00 estimate, split between monitoring and compliance/permitting.  
- Special projects are based on FY00 estimate \* 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours)  
- Office supplies and training/conference based on FY00 baseline BOE.

Vendor Name - Radian  
Vendor Quote - per subcontract KH900654  
Quote Received by - c. Patnoe  
Date Received - fy 98  
Item being quoted - subcontract technical services fixed unit rate time and material  
Other Info - subcontractor has performed this activiyy previously at RFETS under this contract  
Availability - K-H procurement and Radian project office files

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	47.814.76	Dollars

Factors 62400 Dollars

0.94701 --- FY00 Mav Earned Value Factor

0.80913 [SYS 061500] .80704 - System

**Line Item 4 - functional work center support**

**BOE**

Management LOE based on FY98-00 (Radian hours).  
- Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00.  
- FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours).  
- ODCs based on FY00 estimate, split between monitoring and compliance/permitting.  
- Special projects are based on FY00 estimate \* 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours)  
- Office supplies and training/conference based on FY00 baseline BOE.

Vendor Name - Radian  
Vendor Quote - per subcontract KH900654  
Quote Received by - c. Patnoe  
Date Received - fy 98  
Item being quoted - subcontract technical services fixed unit rate time and material  
Other Info - subcontractor has performed this activiyy previously at RFETS under this contract  
Availability - K-H procurement and Radian project office files

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	35.067.22	Dollars

Factors 45764 Dollars

0.94701 --- FY00 Mav Earned Value Factor

0.80913 [SYS 061500] .80704 - System

WBS No: 1HAD0603  
Activity ID: 1HXXX631P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

**Line Item 5 - Project monitoring plan development**

BOE	Management LOE based on FY98-00 (Radian hours). - Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00. - FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours). - ODCs based on FY00 estimate, split between monitoring and compliance/permitting. - Special projects are based on FY00 estimate * 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours) - Office supplies and training/conference based on FY00 baseline BOE.  Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c. Patnoe Date Received - fy 98 Item being quoted - subcontract technical services fixed unit rate time and material Other Info - subcontractor has performed this activiyy previously at RFETS under this contract Availability - K-H procurement and Radian project office files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.									

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	89.685.63	Dollars
Factors 117043 Dollars 0.94701 --- FY00 Max Earned Value Factor 0.80913 [SYS 061500] .80704 - System									

**Line Item 6 - Admin support**

BOE	Management LOE based on FY98-00 (Radian hours). - Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00. - FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours). - ODCs based on FY00 estimate, split between monitoring and compliance/permitting. - Special projects are based on FY00 estimate * 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours) - Office supplies and training/conference based on FY00 baseline BOE.  Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c. Patnoe Date Received - fy 98 Item being quoted - subcontract technical services fixed unit rate time and material Other Info - subcontractor has performed this activiyy previously at RFETS under this contract Availability - K-H procurement and Radian project office files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.									

Resources	Cost Element		Skill		Department		Curve	Quantity	Units
	A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	81.841.40	Dollars
Factors 106806 Dollars 0.94701 --- FY00 Max Earned Value Factor 0.80913 [SYS 061500] .80704 - System									

**Line Item 7 - plans and procedures**

BOE	Management LOE based on FY98-00 (Radian hours). - Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00. - FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours). - ODCs based on FY00 estimate, split between monitoring and compliance/permitting. - Special projects are based on FY00 estimate * 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours) - Office supplies and training/conference based on FY00 baseline BOE.  Vendor Name - Radian									

WBS No: 1HAD0603  
Activity ID: 1HXXX631P2

**Rockv Flats Closure Project**  
**Baseline Cost and Basis of Estimate**

Project Baseline Devl  
WBS Filter 1HAD  
Activity Filter \*

Starts In FY \*

Vendor Quote - per subcontract KH900654  
Quote Received by - c. Patnoe  
Date Received - fy 98  
Item being quoted - subcontract technical services fixed unit rate time and material  
Other Info - subcontractor has performed this activity previously at RFETS under this contract  
Availability - K-H procurement and Radian project office files

This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	52.639.15
Factors		68696	Dollars	0.94701 --- FY00 May Earned Value Factor			

0.80913 [SYS 061500] .80704 - System

**Line Item 8 - Radian ODC's**

BOE	Management LOE based on FY98-00 (Radian hours). - Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00. - FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours). - ODCs based on FY00 estimate, split between monitoring and compliance/permitting. - Special projects are based on FY00 estimate * 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours) - Office supplies and training/conference based on FY00 baseline BOE.						
	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c. Patnoe Date Received - fy 98 Item being quoted - subcontract technical services fixed unit rate time and material Other Info - subcontractor has performed this activity previously at RFETS under this contract Availability - K-H procurement and Radian project office files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.						

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Front Loaded	38.367.52
Factors		50071	Dollars	0.94701 --- FY00 May Earned Value Factor			

0.80913 [SYS 061500] .80704 - System

**Line Item 9 - Special projects/tech expertise**

BOE	Management LOE based on FY98-00 (Radian hours). - Database coordination and testing assumes a substantial reduction from FY00 (Radian hours). Database programming estimate given by Brad Couse (programmer), also based on substantial reduction from FY00. - FWC support, project monitoring plan development, admin support, and plans and procedures based on FY98-00 LOE (Radian hours). - ODCs based on FY00 estimate, split between monitoring and compliance/permitting. - Special projects are based on FY00 estimate * 1.5. As closure proceeds, additional special expertise will be required for specific issues. Examples of previous "special projects" have included participation in RSALs investigation, initial planning for prescribed burn, review and comment on CAB documents, help with obtaining and integrating EPA software into the AIR database, etc. (Radian hours) - Office supplies and training/conference based on FY00 baseline BOE.						
	Vendor Name - Radian Vendor Quote - per subcontract KH900654 Quote Received by - c. Patnoe Date Received - fy 98 Item being quoted - subcontract technical services fixed unit rate time and material Other Info - subcontractor has performed this activity previously at RFETS under this contract Availability - K-H procurement and Radian project office files  This estimate includes a project productivity/efficiency factor for committed but as yet undefined cost reductions.						

Resources		Cost Element	Skill	Department	Curve	Quantity	Units
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WBS No: 1HAD0603  
Activity ID: 1HXXX631P2

Rockv Flats Closure Proiect  
Baseline Cost and Basis of Estimate

Project  
WBS Filter  
Activity Filter

Baseline Devl  
1HAD

A5H	SUBCONTRACTED SRVS	0000	NONE	K109S	Env Sys. Stewardship & Compliance	Linear	106.311.20	Dollars
Factors 138740 Dollars		0.94701 --- FY00 May Earned Value Factor			0.80913 [SYS 061500] .80704 - System			

Line Item SYS - Contingency And Escalation

BOE

Resources

Cost Element		Skill		Department		Curve	Quantity	Units
CON	CONTINGENCY	0000	NONE	ZDEPT	No Department	Linear	92.161.83	Dollars
Factors 92161.8 Dollars								
ESC	ESCALATION	0000	NONE	ZDEPT	No Department	Linear	38.789.57	Dollars
Factors 38789.6 Dollars								

Report Totals:

Labor Hours Total	Labor Cost Total	Materials/ Sub Cost	Contingency & Escalation	Total Prime Cost	Burden Cost	Total Cost
179.057	6.551.301	29.211.733	11.411.112	47.174.147	2.575.609	49.749.756